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**Editorial**

**EDITOR-IN-CHIEF**
Ned Cramer
*ncramer@hanleywood.com*

**MANAGING EDITOR**
Greig O'Brien
*gobrien@hanleywood.com*

**ART DIRECTOR**
Aubrey Altmann
*aaltmann@hanleywood.com*

**EXECUTIVE EDITOR**
Amanda Kolson Hurley
*ahurley@hanleywood.com*

**SENIOR EDITOR, BUILDINGS**
Katie Gerfen
*kgerfen@hanleywood.com*

**SENIOR EDITOR, DEPARTMENTS & ONLINE**
Braulio Agnese
*bagnese@hanleywood.com*

**ASSISTANT MANAGING EDITOR**
Jennifer Lash
*jlash@hanleywood.com*

**ASSOCIATE EDITOR, PRODUCTS**
Kimberly R. Griffin
*kgriffin@hanleywood.com*

**SENIOR GRAPHIC DESIGNER**
Marcy Ryan
*mryan@hanleywood.com*

**EDITORS AT LARGE**
Edward Keegan, Vernon Mays, Hannah McCann

**CONTRIBUTING EDITORS**
Aaron Betsky, Blaine Brownell, Elizabeth Evitts Dickinson, John Morris Dixon, Thomas Fisher, Lance Hosey, Margot Carmichael Lester, Bradford McKee, Mimi Zeiger

**CONTRIBUTING ARTISTS**
Ian Allen, Peter Arkle, Catalogtree, Noah Kalina, Mike Morgan

**Online**

**GENERAL MANAGER, ONLINE**
Kim Heneghan

**CHIEF DESIGNER**
Thomas C. Scala

**SENIOR WEB PRODUCER**
Richard Stirba

**Services**

**EDITORIAL AND ADVERTISING OFFICES**
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Fax: 202.785.1974

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# ARCHITECT

**Advertising**

EXECUTIVE DIRECTOR, COMMERCIAL DESIGN AND CONSTRUCTION
Patrick J. Carroll
*pcarroll@hanleywood.com*
773.824.2411

PUBLISHER, COMMERCIAL DESIGN
Russell S. Ellis
*rellis@hanleywood.com*
202.736.3310

REGIONAL SALES MANAGER, EAST, TX, OK, AR, LA, FL
Michael Lesko
*mlesko@hanleywood.com*
203.445.1484

REGIONAL SALES MANAGER, MID-ATLANTIC AND SOUTHEAST
Nick Hayman
*nhayman@hanleywood.com*
202.736.3457

REGIONAL SALES MANAGER, WEST
Mark Weinstein
*mweinstein@hanleywood.com*
562.598.5650

REGIONAL SALES MANAGER, MIDWEST
Michael Gilbert
*mgilbert@hanleywood.com*
773.824.2435

NATIONAL ADVERTISING MANAGER, LIGHTING
Cliff Smith
*csmith@hanleywood.com*
864.642.9598

REGIONAL SALES MANAGER, CANADA
D. John Magner
*jmagner@yorkmedia.net*
416.598.0101, ext. 220

ACCOUNT MANAGER, CANADA
Colleen T. Curran
*ctcurran@yorkmedia.net*
416.598.0101, ext. 230

REGIONAL SALES MANAGER, UNITED KINGDOM/EUROPE
Stuart Smith
*stuart.smith@ssm.co.uk*
44.020.8464.5577

GROUP PUBLISHING SUPPORT MANAGER
Angie Harris
*aharris@hanleywood.com*
773.824.2415

MARKETING MANAGER
Lauren Cardinet
*lauren@decisioncounsel.com*

RESOURCE AND CLASSIFIED SALES ACCOUNT MANAGER
Erin Liddell
*eliddell@hanleywood.com*
773.824.2445

**Production**

DIRECTOR OF PRODUCTION AND PRODUCTION TECHNOLOGIES
Cathy Underwood

PRODUCTION MANAGER
Paige Hirsch

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**Hanley Wood Business Media**

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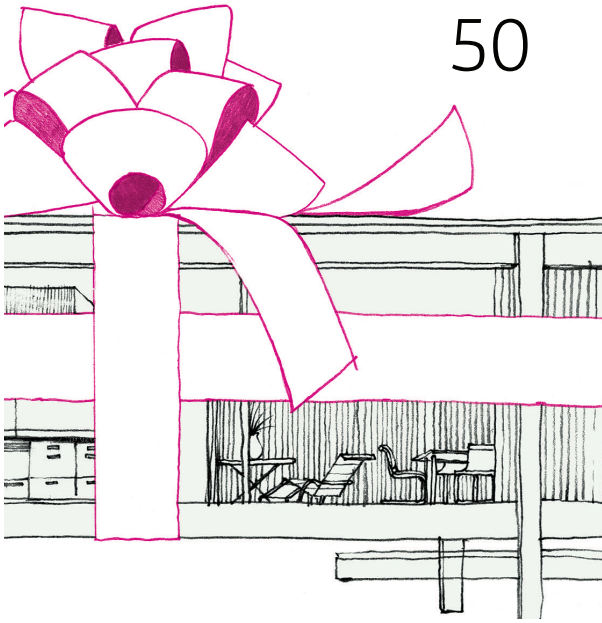

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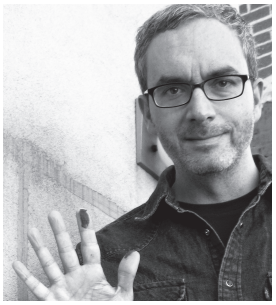
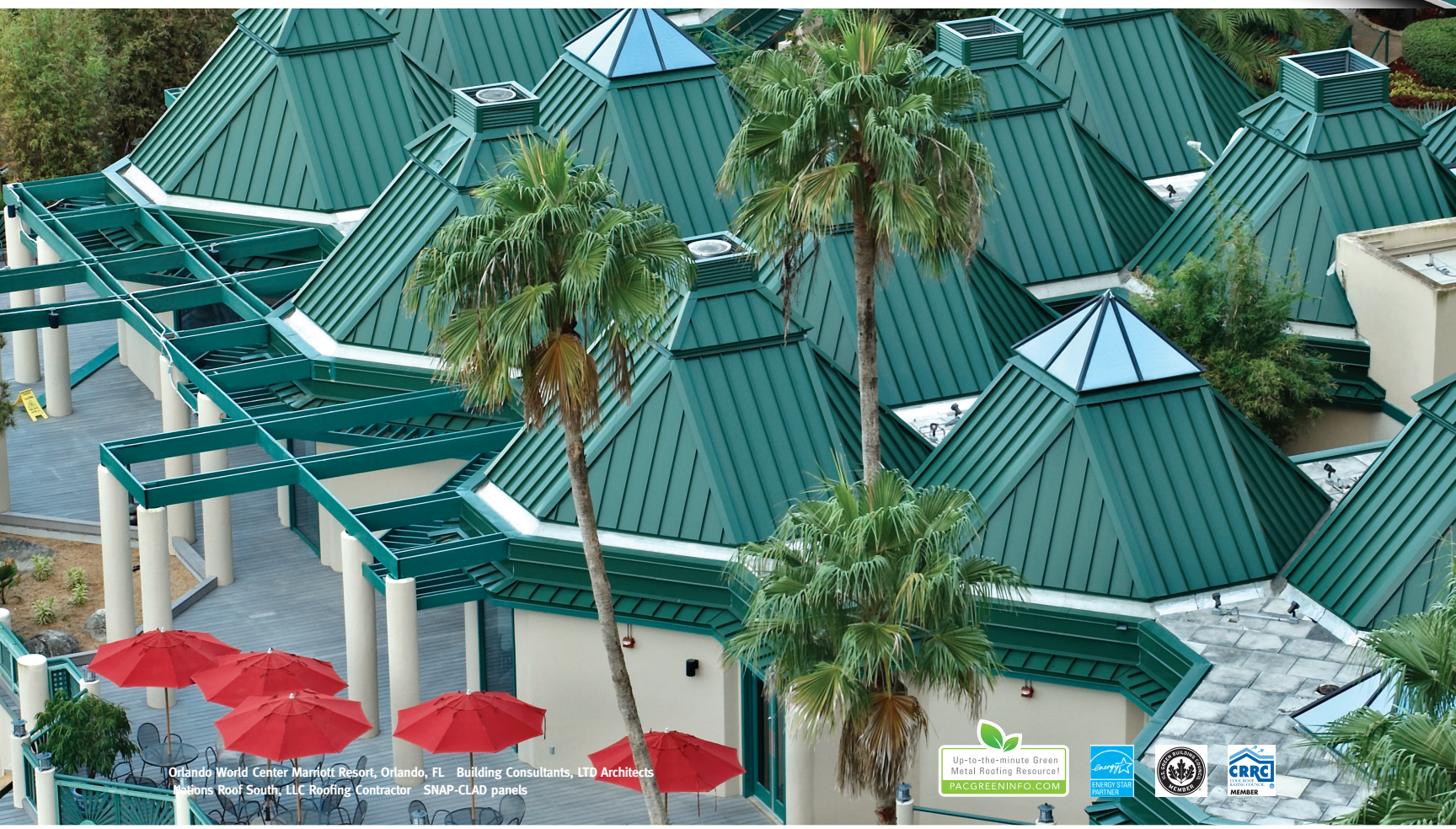


Peter Arkle
"The Art of War" • page 30

Peter Arkle grew up in Scotland and now lives in New York City, where he's a freelance illustrator of books (such as *Seeing and Writing*), magazines (*BusinessWeek*, *Every Day With Rachael Ray*, *Time*), newspapers (*The New York Times*, the *Guardian*), and advertisements (Microsoft, Nike, IBM). He occasionally writes and illustrates his own newspaper containing stories of his everyday life, *Peter Arkle News*, which he's been publishing since 1993 when he was an art student in London. ("It's not monthly or quarterly. It's wheneverly," he says.)

**ON THE COVER**
THE FOUR PARTNERS OF PRE.
PHOTOGRAPH BY NOAH KALINA.

# Green with envy

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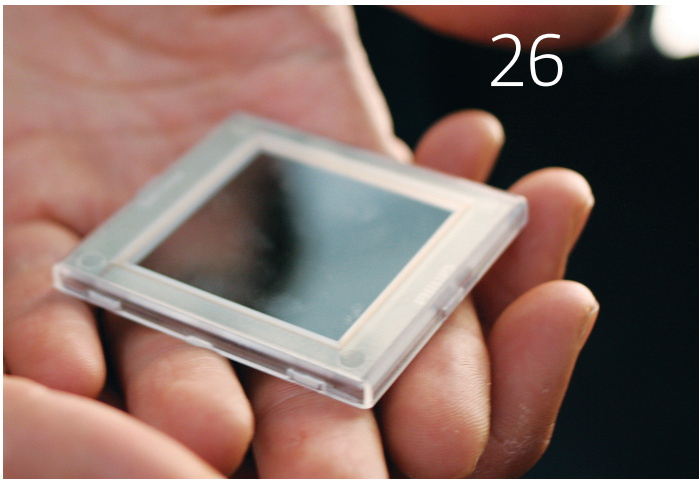
**Right** The Guggen-bot hits the streets: A photo from "Contemplating the Void" at the Guggenheim.

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# HAPPY THOUGHTS

IT'S MUCH EASIER TO BE CHEERFUL WHEN THE LIVIN' IS EASY THAN WHEN YOU'RE LIVING ON FOOD STAMPS.

**OPTIMISM HAS FALLEN OUT OF FASHION.** Who's got the time for it? We're all busy bemoaning the nation's problems—the economy, healthcare, education, the environment, national security—and fighting over the best way to solve them. After all, it's much easier to be cheerful when the livin' is easy than when you're living on food stamps (the current status of one out of every eight Americans). At a time like this, hope runs a close second to jobs as something America could use more of—a lot more of.

One place you wouldn't expect to find much hope is North Lawndale, a poor black neighborhood on Chicago's far west side. As of 2001, nearly three-fifths of the adult population were on probation, on parole, sentenced to prison, or incarcerated. And in 2005, when, as curator of the Chicago Architecture Foundation, I began working with Lawndale residents on an exhibition about the community's social and architectural history, 42 percent of households in the neighborhood had incomes below $15,000.

Things were different in the first half of the 20th century, when Lawndale was home to one of America's largest Jewish communities, with stately stone-fronted townhouses, a grand boulevard of Beaux-Arts synagogues and civic buildings, and prominent residents like Benny Goodman and Golda Meir. Major industries ringed the neighborhood: the International Harvester/McCormick Reaper Works, a Western Electric plant, and the Sears, Roebuck and Co. headquarters.

By 1960, in a classic case of white flight, 91 percent of the Lawndale's 125,000 residents were black. Martin Luther King Jr. made the neighborhood his Chicago base of operations, and after his 1968 assassination a major riot broke out there. Within two years, Lawndale had lost 75 percent of its businesses, including International Harvester. The Sears brass decamped to its eponymous tower downtown in 1974.

In a desperate effort to stem the tide, the U.S. Department of Labor, the Ford Foundation, the Rockefeller Foundation, and other groups awarded more than $250,000 in grants to a local gang, the Conservative Vice Lords, to open a shopping and community center. The initiative was a bust, and drugs, crime, and poverty took hold of North Lawndale. The 2000 census recorded a population of only 41,768.

A decade later, North Lawndale has reason to celebrate, with the opening of the Charles H. Shaw Technology and Learning Center (page 63), a massive conversion of Sears' 1905 powerhouse. The before-and-after photographs astonish me—the 100-year-old boilers and steam pipes have made way for a clean, light-filled learning environment. Five years ago, when I was working on the North Lawndale exhibit, I toured the old powerhouse, and a few community leaders spoke of reclaiming the vast, dilapidated building for a higher purpose. I never thought it would happen, and I'm so very glad to be proved wrong.

## LETTERS

I would like to commend your magazine design and its physical presentation. Believe it or not, some of us do notice that kind of thing. The cover has a good feel as do the pages inside. The page layouts of pictures and text are also well ordered. A lot of magazines have slick covers and pages making them not very comfortable to hold. I'd say that yours is one of the best in that respect.

I also think that Ned Cramer is a first-class editor. His "Dialogue" is always very interesting and well presented. I almost never read the manager's or editor's page of magazines because, frankly, they typically are boring. But maybe it's Mr. Cramer's right-on and well-thought-out critique of all things architecture and related subject matter that holds my attention. But whatever it is, keep up the good work.

*F. Odell Pullen, Nashville, Tenn.*

CORRECTIONS January 2010

In the article on P/A Award winner Taiyuan Museum of Art (page 52), we incorrectly stated that Preston Scott Cohen's firm is located in New York. It is, in fact, located in Cambridge, Mass. We also showed the incorrect floor plan. The correct ground floor plan can be seen at architectmagazine.com. Also, in "Green Toolbox" (page 27), Anshen + Allen associate principal Tyler Krehlik was quoted as citing California Proposition 18, which calls for a warning about hazardous materials in buildings. The correct proposition number is 65. We regret the errors.

MIKE MORGAN

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# Top Stories → For these stories and more, see architectmagazine.com

Perkins+Will merged with **Shore Tilbe Irwin & Partners**. The Toronto firm, whose work includes the Wellness Centre at the University of Toronto Mississauga campus (above), is now known as **Shore Tilbe Perkins+Will**.

A total of **49 teams from eight countries** have entered **Framing a Modern Masterpiece: The City + The Arch + The River 2015**, a competition to redevelop the park and city areas around the St. Louis Gateway Arch.

The **Porchdog House** (above), Marlon Blackwell's design for a hurricane-proof residence, and the James Corner Field Operations/Diller Scofidio + Renfro–crafted High Line were shortlisted for the **Brit Insurance Design Awards**.

# New York Shuffle

**Van Alen Institute**
The Van Alen Institute, a think tank devoted to architecture and the public realm, has announced that Olympia Kazi will be the group's new executive director. Prior to joining Van Alen, Kazi directed the Institute for Urban Design (IFUD) for two years. In addition to expanding the IFUD's outreach and influence, her final project for the institute, "Urban Design Week," received a $150,000 grant in 2009 from the Rockefeller Foundation's Cultural Innovation Fund. Kazi, who was educated as an architect at the University of Florence, Italy, has also served as the architectural editor of *Wound* magazine and has written for *The Architect's Newspaper* and *Architectural Design*.

**Institute for Urban Design**
Replacing Kazi at the IFUD—which focuses on the issues surrounding urban planning, development, and design—is longtime architecture and design journalist Anne Guiney. Most recently the editor of the New York edition of *The Architect's Newspaper*, Guiney was also an editor at *Architecture* and *Metropolis*. An occasional contributor to ARCHITECT, she has also written for *Mark* and *I.D.*

**Storefront for Art and Architecture**
After three years on the job, Storefront director Joseph Grima is stepping down from his post, and the gallery is looking for his successor. A former editor and adviser at *Domus*, Grima—who is departing to take on a new project in Europe—was relatively unknown when he was picked from an international search in 2006 to assume a role previously held by Kyong Park, Shirin Neshat, and Sarah Herda. His impressive tenure raised both his own and the institution's visibility. Grima will remain Storefront's director emeritus until the board hires a replacement.
BRAULIO AGNESE AND MIMI ZEIGER

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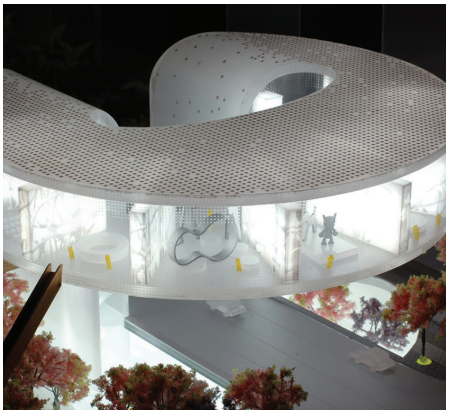

**WORKac**—in conjunction with Zhubo Architecture Studio, Arup, and Balmori Associates—won an invited competition to redesign a kilometer-long section of **Hua Qiang Bei Road** in Shenzhen, China.

The **Isabella Stewart Gardner Museum** released new renderings of its **Renzo Piano–designed addition**. Expected to be completed in 2011, the 70,000-square-foot project includes exhibit space and a music hall.

Forty-three **Jean Tschumi drawings** have been donated by the architect's son, Bernard, to the **Museum of Modern Art**. The images span Tschumi's career and include his final project, the Nestlé headquarters building (above).

# BKL Sets Up Shop

## SOM PARTNER TOM KERWIN JOINS FORCES WITH DAVID BRININSTOOL AND BRAD LYNCH.

**WHEN THE GOING GETS** tough, the tough get ... together.

While firms are still hemorrhaging employees and even shutting their doors due to the difficult economy, one award-winning small firm in Chicago has reconstituted itself as a new entity designed for opportunity. David Brininstool and Brad Lynch, partners for 20 years in Brininstool + Lynch, announced on Jan. 26 that they had closed their firm and teamed with Tom Kerwin, previously a managing partner at Skidmore, Owings & Merrill's Chicago office, to form Brininstool, Kerwin and Lynch (BKL).

The new firm has announced a "strategic alliance" with Chicago-based Magellan Development and aims to leverage Kerwin's extensive international contacts to grow the practice far beyond its hometown. BKL is already working with Dutch- and Korean-based developers on new projects.

Brininstool + Lynch was well known for its residential projects—generally, large apartment designs by Brininstool and single-family residences by Lynch. BKL's home will be in an acclaimed new Chicago structure that has just opened, although it isn't one by the firm: Studio Gang Architects' Aqua Tower, not coincidentally developed by new ally Magellan. EDWARD KEEGAN

"[APPLE STORES ARE] AS CLOSE AS WE WILL GET TO THE OPEN SPACE THAT MODERNISM ALWAYS PROMISED US."

—AARON BETSKY, IN HIS BLOG *BEYOND BUILDINGS*. READ MORE AT BIT.LY/cQUTPZ

At 4:53 p.m. on Jan. 12, Haiti suffered a magnitude 7.0 earthquake. The catastrophic event almost instantly destroyed more than 20,000 commercial buildings and 225,000 residences and damaged countless others. Officials say the final death toll could top 200,000. The global response—food, funds, healthcare, manpower, and more—was immediate and impressive. So thorough was the devastation wrought by nature, however, that it will be many, many years before life on the island nation returns to normal.

CLOCKWISE FROM FAR LEFT: COURTESY SHORE TILBE PERKINS+WILL; DANIEL SCHWEN; MARLON BLACKWELL ARCHITECT; WORKAC; RENZO PIANO BUILDING WORKSHOP; PORT(U*O)S; ASSOCIATED PRESS

# AIA Awards and Announcements

## 2010 THOMAS JEFFERSON AWARDS

The Thomas Jefferson Awards honor professionals who have advanced the cause of public architecture. The winners for 2010 are Curtis Fentress, founder of Denver-based Fentress Architects; Les Shepherd, the chief architect of the Public Buildings Service at the General Services Administration (GSA); and Ken Greenberg, principal of Ontario's Greenberg Consultants.

Fentress is best known by many for his airport designs at Denver International and Seoul's Incheon, for civic buildings such as the Clark County Government Center, in Las Vegas, and for museums. He credits the GSA for creating "a blueprint for how to make public buildings better," a project that his fellow winner Shepherd has had a hand in since before he succeeded Edward Feiner as the agency's chief architect in late 2006 and took charge of about $12 billion in federal design and construction projects. Shepherd has worked at the GSA for 21 years and has helped pull off projects such as the San Francisco Federal Building, by Morphosis, and courthouses in Denver and Las Vegas.

Greenberg received the award for a practitioner who has helped raise design awareness among the public. He has designed master plans in a number of large North American cities and won praise for his ability to enroll the public in the planning process. BRADFORD MCKEE

## 2010 INSTITUTE HONOR AWARDS

The Institute Honor Awards celebrate excellence in architecture, interior architecture, and urban design. This year's 28 winners will be honored at the AIA's national convention this June. Listed here are the architecture winners. To see the complete list, go to bit.ly/a3q3UV.

- Alice Tully Hall—Diller Scofidio + Renfro/FXFowle Architects
- Austin E. Knowlton School of Architecture—Mack Scogin Merrill Elam Architects
- Beauvoir—Albert & Associates Architects
- Brochstein Pavilion and Central Quad—Thomas Phifer and Partners
- Camino Nuevo High School—Daly Genik
- Campus Restaurant and Event Space—Barkow Leibinger Architects
- Macallen Building—Office dA/Burt Hill
- Outpost—Olson Kundig Architects
- Serta International Center—Epstein | Metter Studios
- Skirkanich Hall—Tod Williams Billie Tsien Architects
- Step Up on 5th—Pugh + Scarpa
- TKTS Booth and the Revitalization of Father Duffy Square—Perkins Eastman, Choi Ropiha, and PKSB Architects
- Urban Outfitters Corporate Campus—Meyer, Scherer & Rockcastle
- Yale University Art Gallery/Kahn Building Renovation—Polshek Partnership Architects

## 2010 SUSTAINABLE DESIGN ASSESSMENT TEAMS PROGRAM

The Center for Communities by Design has chosen seven communities to receive assistance under the Sustainable Design Assessment Team program. SDAT brings together architects and others to offer guidelines for communities looking to improve their sustainability—including not just environmental issues, but economic and social ones as well. To learn more, go to bit.ly/9hOkAI.

- Allegheny County, Pa.
- Allentown, Pa.
- Bridgeport, Conn.
- Coos County, Ore.
- Ithaca, N.Y.
- Oxford, Miss.
- Portland, Maine

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THE FOURTH ANNUAL

# R+D AWARDS

## CALL FOR ENTRIES

**ELIGIBILITY**
The awards are equally open to architects, designers of all disciplines, engineers, manufacturers, researchers, and students.

**PUBLICATION**
The winning entries will appear in the August 2010 issue of ARCHITECT, both in print and online.

**DEADLINE**
**Friday, April 23, 2010**
regular submission deadline (postmark)

**Wednesday, April 28, 2010**
late submission deadline (postmark; additional fee is required)

**FEES**
**First entry:** $125 first entry

**Additional entries:** $75 each

**Late entries:** $50 additional fee per entry by April 28, 2010

Application forms and submission requirements are available at rdawards.com

**CATEGORIES**
The awards will be judged in three categories, reflecting different stages of the research and development process:

- **Prototype**—Products, materials, and systems that are in the prototyping and testing phase
- **Production**—Products, materials, and systems that are currently available for use
- **Application**—Products, materials, and systems as used in a single architectural project or group of related architectural projects

The jury will consider new materials, products, and systems as well as unconventional uses of existing materials, products, and systems. Entries will be judged for their potential or documented innovation in fabrication, assembly, installation, and performance. All entries will be judged according to their potential to advance the aesthetic, environmental, social, and technological value of architecture.

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FOR MORE INFORMATION E-MAIL:
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# BUSINESS

INTERVIEW BY EDWARD KEEGAN
PHOTO BY TRACY POWELL

→BEST PRACTICES

# Smart Fellow

## BY HOSTING TWO IN-HOUSE RESEARCHERS EACH YEAR, MOSHE SAFDIE AND ASSOCIATES OFFERS REAL-WORLD EXPERIENCE WITH AN ACADEMIC FLAVOR.

The fellowship program that **Moshe Safdie** instituted at his firm in 2003 is so important to him that he runs it without regard for the bottom line—even in a recession. "We've shrunk the office," he says, "but not the fellowship."

**IT'S NOT UNCOMMON** for firm leaders to maintain a presence in academia, but time in the classroom is time away from the business. What about bringing the teaching experience in-house? This is the solution that Moshe Safdie—who directed the Urban Design Program at Harvard's Graduate School of Design from 1978 until the early 1990s—devised. Since 2003, the Somerville, Mass., office of Moshe Safdie and Associates has selected two individuals to participate in a yearlong, sponsored research fellowship. Topics of study have included tall buildings and the urban impact of mobility-on-demand.

**What was the impetus for starting the fellowship?**
I missed teaching.

**Why had you stopped teaching?**
The practice was suffering. I had an endowed chair, and I felt guilty about occupying it.

**So why not go back to teaching?**
I thought, rather than doing a studio now and then, why not do something like it in the context of the office? It

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would give me more time to spend with the fellows and have some application to the office as well.

**How did you structure it?**
(1) It should be a couple of people, so there can be dialogue. (2) The fellows should *not* be straight out of school. (3) They should have a passion for the subject—so we had to say what we're doing, specifically, each year. (4) It would involve all our consultants.

**How do you find the fellows?**
We advertise. We try to get the word out. We send a poster to the schools, but that's limiting because we're not interested in recent graduates. We want people who are out of school, but sometimes there are people doing graduate work that relates to what we're proposing.

**How do you choose the participants?**
They submit portfolios. We shortlist them, and then we fly people in for interviews—one of our budget items. Two are chosen each year. We've learned that the chemistry between the fellows is critical, so we put them in the middle of the office.

**What's the day-to-day experience?**
[Principal] Chris Mulvey coordinates it. I interact with them at least weekly. It's a lot like a school studio format, except we're not student and critic, we're collaborating. We all throw in ideas; we all have our say. It's a team, and I'm an active member of the team. It's more like a postdoctoral research lab.

**How has it evolved?**
We're making a bigger effort to engage the rest of the office. We're working harder at the interaction. Once a month, we schedule a presentation. One fellow had been working with Bill Mitchell, [professor of architecture and media arts and sciences] at MIT. Bill started being one of our visiting critics, and he's since become an active collaborator. It wasn't planned, but it's evolved into an ongoing relationship with the MIT Media Lab.

**How do you budget for it?**
There's a stipend: $55,000 to $60,000. It's livable.

**How does it relate to the firm's work?**
There's a tendency for research to become highly theoretical. We are architects and urban designers. We're not statisticians or transportation consultants. I insist on bringing it back to the urban design and architecture. It's so easy to drift into theory.

**Do you re-evaluate it each year?**
Yes. We discuss the subject matter for that year.

**What's next?**
We want to publish a book on our fellows' work. □



→STRATEGY

# Even in a It's Possi

TEXT BY HANNAH MCCANN

**FOR RJC ARCHITECTS,** THE PAST TWO YEARS HAVE BEEN A TIME OF GROWTH AND HIGHER PROFITS. PRINCIPAL JAMES ROBBINS CREDITS HIS FIRM'S BUSINESS PHILOSOPHY. (A BIT OF LUCK HELPS, TOO.)

**ARE ANY ARCHITECTURE FIRMS** doing well in this recession?

In fact, there are a few. Hugh Hochberg, a design management consultant with Seattle's Coxe Group, estimates that about 5 percent of U.S. firms have seen net growth in the past two years. "By net growth," he explains, "I mean that they have more staff today than a year ago. They may have had layoffs, ... but the number of new hires exceeds the number who have left."

ARCHITECT tracked down one of these recession-defying practices: RJC Architects, in San Diego, which grew 50 percent—to 30 employees from 20—from 2007 to 2009, earning the firm a spot on the *San Diego Business Journal*'s list of fastest growing local companies. In tandem, RJC's gross revenue jumped 83 percent and its profit margin rose by 12 percent. "We're up in every way," says James Robbins, one of the firm's two principals.

What is RJC doing right? "There is a component of luck in this," Robbins says, modestly, before sharing a few secrets to his success. Firm leaders, and those who aspire to take the helm one day, listen up.

**1. Understand your market.**
Like most small and midsize firms, RJC is regionally focused. But "it's hard to outperform a market over time forever," says Robbins. A regional firm needs repeat clients, or it will always be scouting for new work.

Luckily for RJC, San Diego is home to the West Coast's largest naval base, and the defense sector has weathered the downturn better than most. RJC began working for the U.S. Navy in 1992, "doing nasty jobs nobody wanted, renovations and such," says Robbins. These days, RJC is doing close to $300 million in business for the Navy.

It doesn't always work out so well, Hochberg cautions. "Most firms," he says, "find it difficult to be considered for the 'nasty' projects and the 'plum' projects for the same client."

**2. Provide full service.**
Every client asks how long a project will take and how much it will cost. "As architects, we really make a mistake if we can't answer those questions," Robbins says. "That mistake starts to show up when we hit hard times."

RJC tries to answer all questions by providing soup-to-nuts services, from predesign work to programming and specifications to construction administration. Over the past 12 years, sensing more apprehension from litigation-wary public clients, the firm has taken the next step,

# Drought, ble to Thrive

fostering design-build partnerships with local builders. A design-build contract lessens the element of the unknown for clients and stops the blame game between designer and builder. Hochberg recommends this mindset for every practice: "Even firms offering only a narrow range of services will be more successful if they have a deep understanding of the entire process."

**3. Compete to win.**
RJC has close to $850 million in work on the boards now, all of it awarded in "best-value" competitions, which are judged on the basis of design value per dollar (functionality, maintenance, sustainability, etc., divided by total cost) instead of cost alone. Competing allows the firm to "jump the scale of our projects," Robbins says.

It's usually all or nothing when RJC partners with a builder to enter a competition. The firm works on an unpaid, speculative basis, with the agreement that RJC will get a larger share of the profits if the contract is won. "A lot of architects go in trying to minimize their losses, and we've beaten them pretty consistently," Robbins says. Last year, RJC entered eight design competitions on spec, investing approximately $600,000 in time and expenses. The firm won four, the aggregate construction value of which is approximately $250 million.

While the risk pays off for RJC, some architects don't gamble on principle, Hochberg points out. "Providing service without compensation can lower the perceived value of the firm's work—and that of the profession as a whole," he says.

Yet Robbins describes the real value of competitions as being not in the profits but in the quality of the work: "We are able to sell our ideas for how much they are worth, instead of how long it took us to draw them. That's a big shift, and one I would recommend to every architect."

**4. Treat employees well.**
Some say layoffs make a firm more efficient. Robbins views things differently. Firms that make a long-term investment in their staff will see it pay off in the boom times. "We're talent agencies," Robbins notes. "Architects hate it when I say that, but it's true. We buy talent by the year and sell it by the hour. The better talent you have, the better your firm is." To keep its talent, RJC offers flex time, paid overtime, paid healthcare deductibles, and a generous 401(k) match.

But at what price? Next to none, according to Robbins. Between the savings from not having to retrain new employees and various tax and insurance breaks, RJC comes out ahead. Only three employees have left the firm over the past five years, and that may be the number Robbins is most proud of. "Low turnover is probably the most important factor in our productivity," he says.

Robbins understands that his candor about the inner workings of RJC might raise some eyebrows. "I used to be *very* reluctant to talk about any of this with other architects," he admits. "But as I've gotten older," he adds, "I realize that most of what I say about running the office as a business will be widely ignored—or contested—anyway." □

2007→2009

## RJC'S GROWTH

EMPLOYEES 50%

GROSS REVENUE 83%

BILLINGS 26%

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→LOCAL MARKET

# Washington, D.C.

TEXT BY MARGOT CARMICHAEL LESTER

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**ALTHOUGH ALMOST EVERYONE** in the nation's capital bought into the "Yes, we can!" mentality, economic pressures have largely stifled private development in Washington, D.C.

Federal stimulus funding has allowed a few infrastructure modernization efforts and new-building projects to move forward. "The public and institutional sectors are active," says David Kitchens, principal in charge of Cooper Carry's Alexandria, Va., office, located just down the Potomac River. But lack of funding from "private-sector funding sources continue[s] to be the primary reason that projects are not starting or are on hold."

Rod Garrett, director of Skidmore, Owings & Merrill's D.C. office, agrees. "Everybody's very cautious and calculated," he says. "There is plenty of equity that wants and needs to be placed. The development community wants to do more work, but the financing world is not producing the funds for debt placement at reasonable underwriting standards."

Still, there are projects under way, and not all are related to federal government activities. "The Washington market has consistently generated over 50,000 new jobs per year, and it is our expectation that, as the economy recovers, the region will again experience strong job growth," predicts Tasha Stancill, director of marketing for D.C.-based developer Monument Realty. "That will translate into increased demand for housing and office space, which will drive new construction, particularly in strong locations around the Metro," she adds.

And though the city gets a bad rap for uninspired architecture, "great opportunities exist in D.C. for design excellence and innovation," says Skidmore's Garrett. "Every project solicitation, whether coming from the government or commercial developers, lists design as a major project driver, coupled with demands for high performance and energy conservation." □

**1. 1801 K Street (NW)**
**ARCHITECT:** Skidmore, Owings & Merrill, Washington, D.C. **COMPLETION:** 2009. **BRIEF:** $72 million makeover of 1971 building brings a classically modern look to the central business district.

**2. Half Street (SE)**
**ARCHITECTS:** Davis Carter Scott, McLean, Va.; Shalom Baranes Associates, Washington; Gensler Studio 585, Washington. **COMPLETION:** TBD. **BRIEF:** 1.5-million-s.f. mixed-use development by Nationals Park stadium has one building under way; six other buildings delayed because of recession.

**3. Marriott Marquis (NW)**
**ARCHITECTS:** tvsdesign and Cooper Carry, Atlanta. **COMPLETION:** 2012. **BRIEF:** $350 million public/private hotel and retail project, once postponed for financial reasons, now on hold pending a lawsuit.

**4. U.S. Institute of Peace (NW)**
**ARCHITECT:** Moshe Safdie and Associates, Somerville, Mass. **COMPLETION:** 2011. **BRIEF:** $186 million headquarters, located on the National Mall.

**POPULATION/EMPLOYMENT**
The city is a few hundred residents shy of breaking the 600,000 mark. Job growth through 2010: less than 1%.

**OFFICE MARKET**
91% occupancy; average asking rate: $49.70/s.f.

**RESIDENTIAL MARKET**
Median home sale price, November 2009: $417,000.

**MARKET STRENGTHS**
- Access to political power
- Highly educated workforce
- Public transportation

**MARKET CONCERNS**
- Cumbersome entitlement and approval process
- No real urban design scheme
- Reputation as a government-only town

**FORECAST**
"We want businesses to expand their view of D.C.," says Mary Margaret Plumridge, communications director at the Office of the Deputy Mayor for Planning & Economic Development. "Look beyond the Capitol and the White House to see a vibrant city offering optimal conditions for success."

1–4: DAN POYOUROW; MONUMENT REALTY; TVSDESIGN/COOPER CARRY; JOHN HORNER

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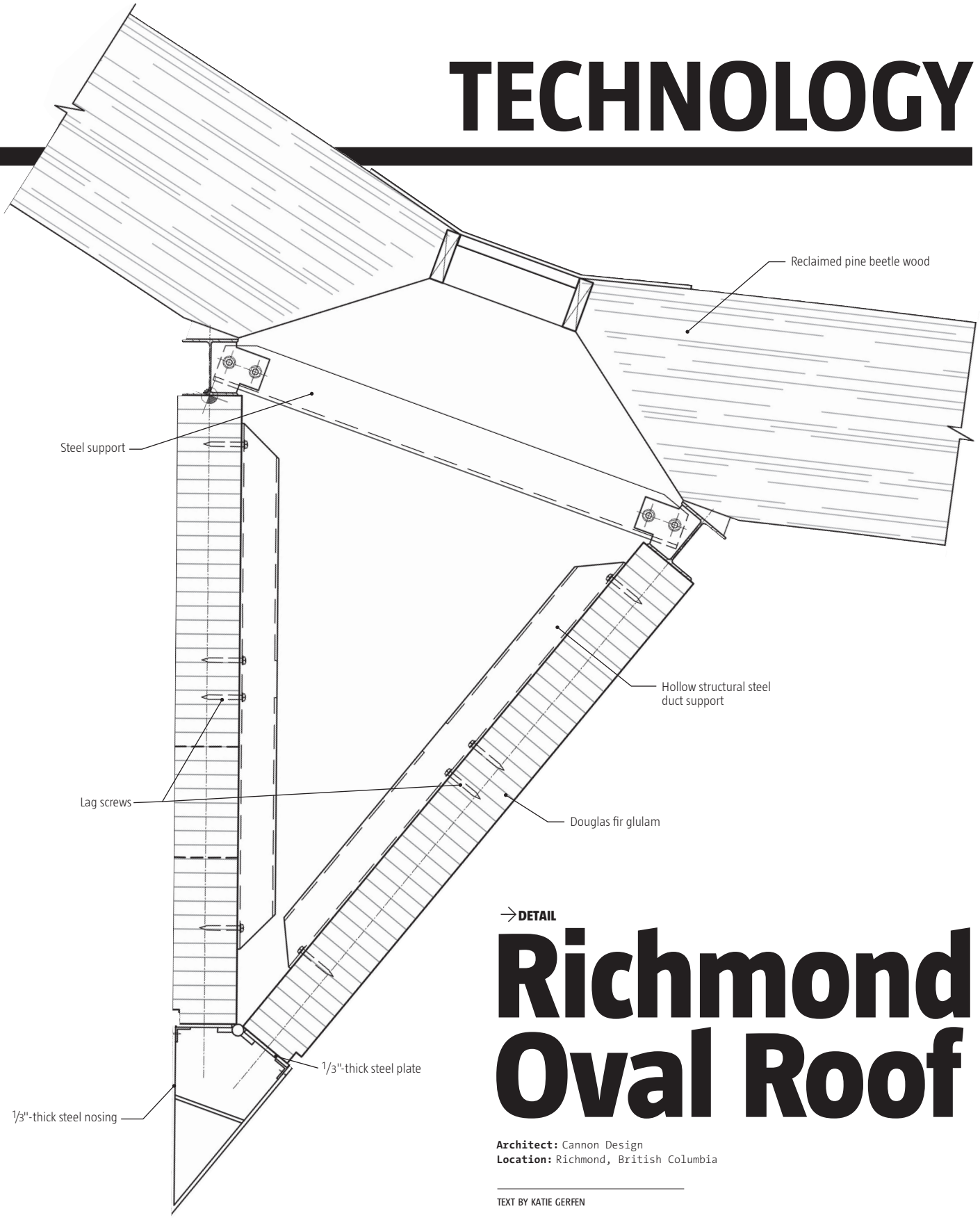
# TECHNOLOGY




→DETAIL

## Richmond Oval Roof

**Architect:** Cannon Design
**Location:** Richmond, British Columbia

TEXT BY KATIE GERFEN

0 10" 20"

The roof of the Richmond Oval is made up of large Douglas fir glulam arches, with ribbed panels made from recovered wood devastated by a pine beetle infestation in the interstitial spaces.

**OLYMPIC SPEED SKATING** has been in the limelight recently, most notably for the U.S. team's funding shortfall and its partnership with fundraising powerhouse Stephen Colbert. But when skaters take to the ice this month in the race for gold, they will be competing for air time with the architectural star of the show: the soaring roof of the Richmond Oval skating complex. Designed by the Vancouver, British Columbia, office of Cannon Design, the 512,000-square-foot facility houses a 400-meter parabolic track and seating for 8,000 tucked under a roof structure that spans 328 feet.

The 60-foot-high roof is supported by 15 glulam arches—designed with structural engineers Fast + Epp—spaced every 47½ feet along the length of the building. The arches are made of two layers of Douglas fir glulam sandwiched around steel ribbing reinforcement. A resulting plenum in each arch becomes part of a concealed network of HVAC distribution points. And that is not the only thing hidden from view: Cannon worked with StructureCraft to design and build a series of 12-foot-by-43-foot ribbed wooden panels that span the space between the arches and mask sprinklers, lighting, and other systems from view. "It is a unique thing to imagine," Larry Podura, a vice president at Cannon, says. "It necessitated having plumbers and fire contractors move into the fabrication shop and collaborate. But it cleans the visual field." Each 52-inch-thick panel has three triangular ribs that run perpendicular to the spanning arches. There are 31 panels between every set of parallel arches in the roof, each panel weighing 3,500 pounds.

The decision to use wood instead of a standard perforated decking was an easy one. "At the very beginning, there was a strong desire to express something of the regional character of our part of the world, and wood is an attractive, sustainable, warm material that we all agreed would be wonderful to integrate," Podura said. Each ribbed panel is clad in standard 2x4 plywood, milled from trees reclaimed from the forest floor—victims of the insidious pine beetle that decimated much of the local tree stock. There are nearly 1 million board feet of this wood—tinged slightly blue as a result of the infestation—in the roof structure. The 2x4s are staggered, and the resulting openings (which look like linear perforations) expose acoustical material to help dampen sound in the arena.

When the medals have been handed out and the camera crews pack their bags, the Richmond Oval will not be left to lie fallow. It will find new life as a community center with room for basketball, badminton, and, of course, ice skating. Cannon will start that retrofitting process shortly after the closing ceremony of the Winter Olympics, with an expected completion date near the end of 2010. □

HUBERT KANG PHOTOGRAPHY/COURTESY CANNON DESIGN

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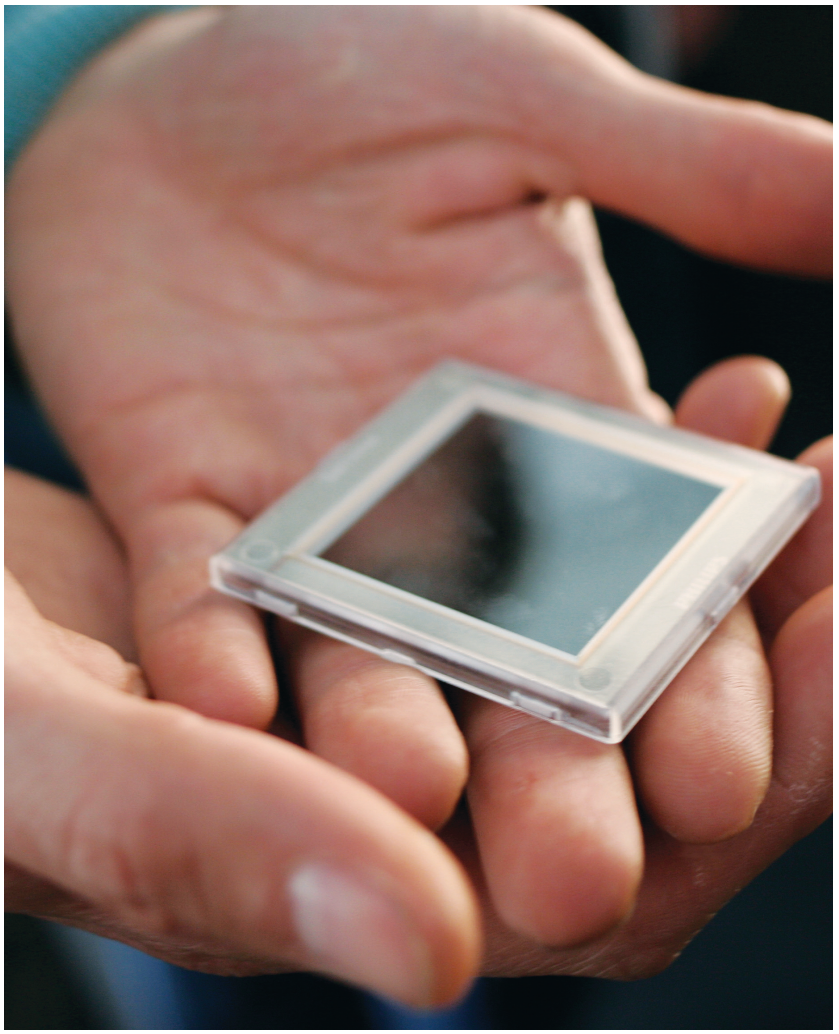

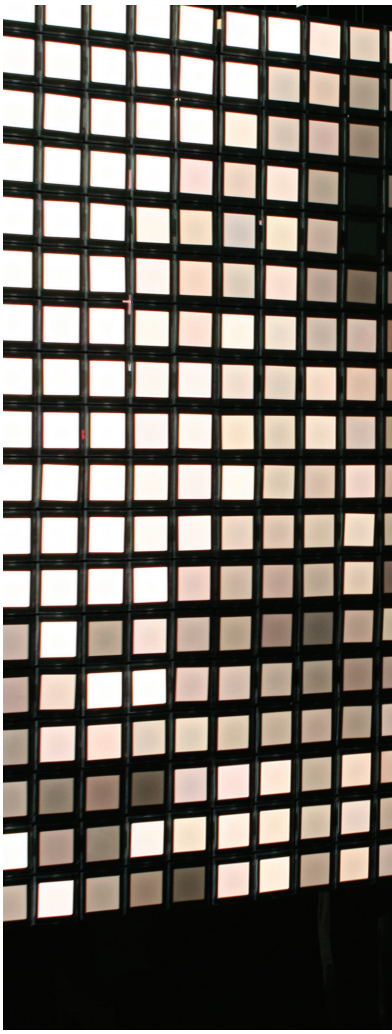

OLEDS CAN BE FOUND IN MANY CONSUMER PRODUCTS, INCLUDING TELEVISIONS AND CELL PHONES. EVENTUALLY, IF MANUFACTURERS GET THE TECHNOLOGY RIGHT, YOU MAY BE ABLE TO BUILD WITH THEM.

TEXT BY MIMI ZEIGER

**THE CONSUMER ELECTRONICS SHOW** (CES) in Las Vegas seems an unlikely spot to find a product touted to revolutionize architectural lighting, but this January, a see-through, organic light-emitting diode (OLED) computer screen could be found among the gadget geeks and showgirls. Just millimeters thin and capable of emitting a full-color spectrum, the OLED is perfect for displays and is rapidly finding its way into commercial use: laptops, televisions, cell phones, and PDAs. Yet Samsung's transparent 14-inch prototype screen at CES 2010 offers something beyond consumer electronics, pointing to new ways of making architecture.

Imagine that transparent OLED as a window—or, for that matter, a wall. With the flip of a switch, the semiconductors fire, and the clear panel transforms into a screen or a light source. "Instead of the environment having to accept the lighting, the lighting fits into the environment," notes Barry Young, managing director of the OLED Association, an industry trade group. Adds Dietrich Bertram, Philips Lighting's OLED technical officer: "[OLEDs] could change how we experience light and architecture." While full integration into building

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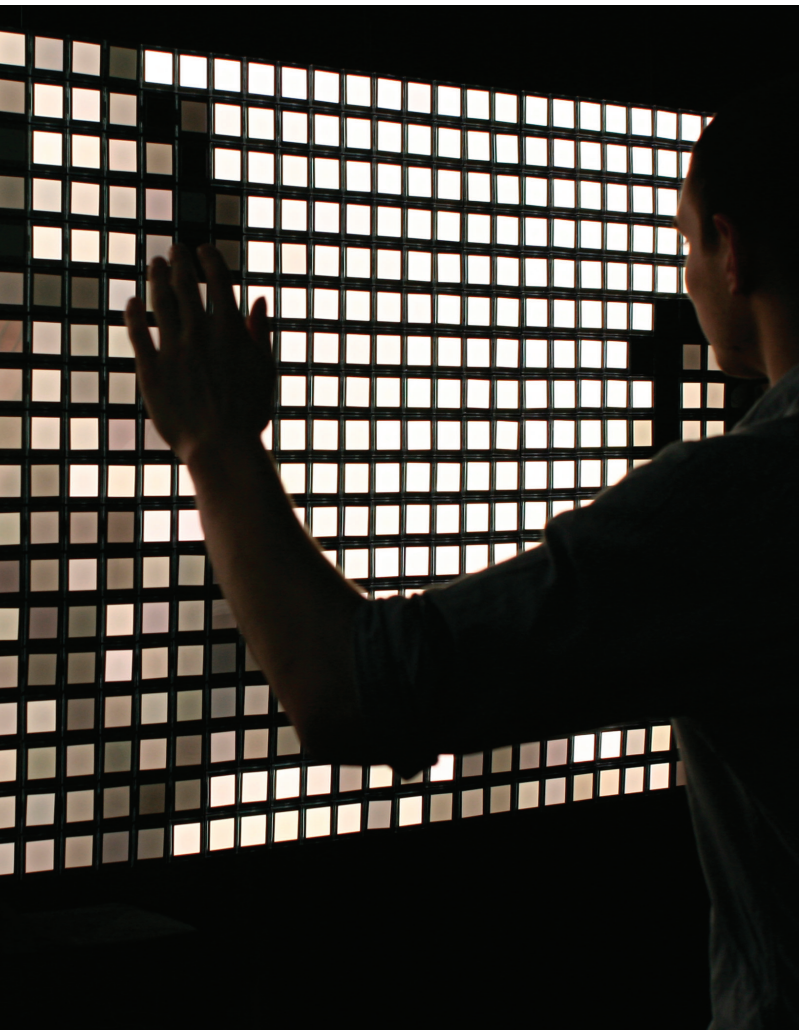

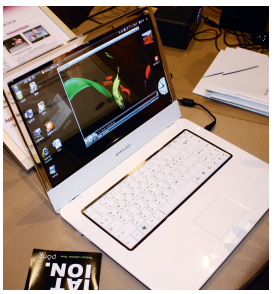

A prototype Samsung laptop at the 2010 Consumer Electronics Show (above) featured a see-through OLED display.

Philips' Lumiblade (far left), one of the first commercially available OLED lighting products, was used by the art collective rAndom International in 2009 to create *You Fade to Light* (left), an interactive installation.

FROM LEFT: ANTONIA HALSE (2); WWW.OLED-DISPLAY.NET

materials is still several years away (Bertram predicts five to eight years), manufacturers—including Philips, General Electric, Panasonic, Osram, and Samsung—are gamely pursuing the possibilities.

Unlike a standard LED, which emits light from a single point, an OLED is a diffuse-area light. Organic, electroluminescent film is sandwiched between a negatively charged layer of aluminum and a positively charged layer of indium tin oxide, all of which is housed between sheets of glass or plastic. ("Organic" refers to the fact that the film is made up of compounds whose molecules contain carbon.) When a voltage is applied, the film acts as a semiconductor and glows.

In terms of efficiency, today's OLEDs are roughly 25 lumens per watt (lm/W), only slightly better than traditional lamps (incandescents average 17 lm/W, and tungsten halogen reflectors average 14 lm/W), but they still need development to match fluorescents (T5: 104 lm/W;

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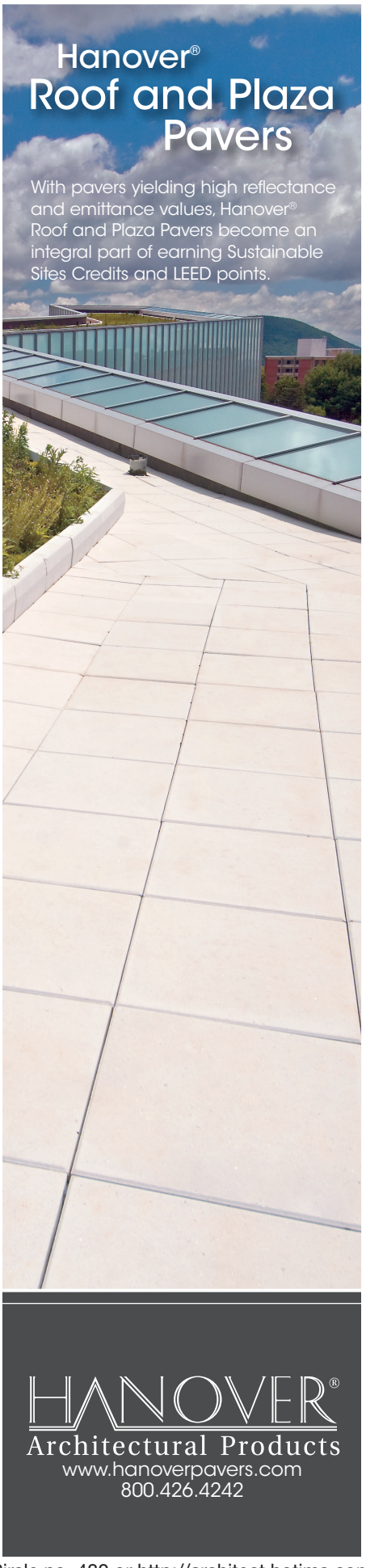

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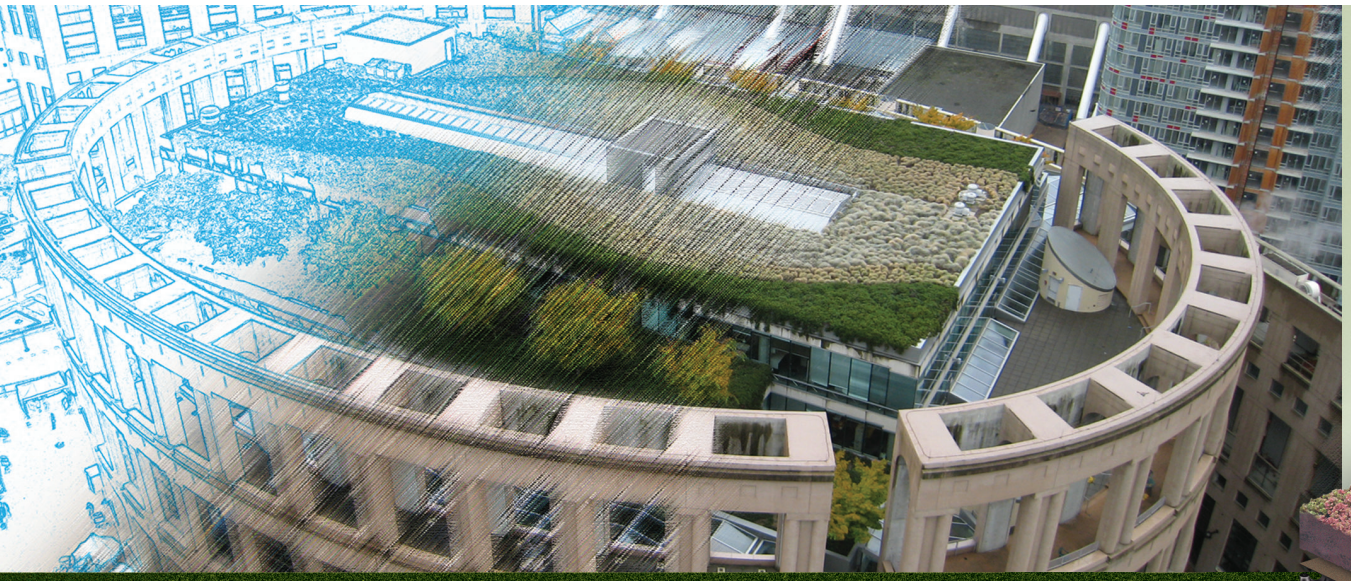
T8: 88 lm/W), a source with one of the greatest luminous efficacies on the market.

Although high production costs have challenged manufacturers' ability to bring products to market, Osram Opto Semiconductors introduced the Orbeos panel in late 2009. Octagonal in shape, with a 3-inch-diameter lamp surface, the fixture is the company's first truly commercial OLED product. Only 2.1 mm thick, the Orbeos can be installed like a tile, with the lamps fitting together to cover a large surface. The panel has a warm color temperature equivalent to an incandescent bulb, but because the light source is diffuse, the Orbeos is atmospheric and essentially glare-free.

Philips began researching OLEDs for displays in the 1990s—it now offers a number of consumer products with OLED screens—and embarked on lighting a decade later. The company's most recent development is the Lumiblade, a discrete lighting component that premiered at the 2009 Salone Internazionale del Mobile and is now available in several shapes and sizes. This winter, the company installed a Lumiblade sculpture at the International Design Museum Munich. Designed by rAndom International, *You Fade to Light* uses 900 rectangular modules to create an interactive mirrored wall, in which a viewer's movements are translated into movements across the array. Osram has also paired with a designer: In 2008, in conjunction with Ingo Maurer, it launched Early Future, a limited-edition, commercially available table lamp featuring 10 OLED modules that sprouted, leaflike, from a tilted stand.

Brian Terao, Osram's director of solid-state lighting, predicts higher, more compatible outputs in the near future, so that OLEDs can effectively compete as sustainable products. There is even hope that the technology can be used as a power source, says the OLED Association's Young. "OLEDs operate by converting electrical energy into light, but if you think about reversing that, you can convert light to energy," he notes—and research by Cornell University and other institutions has shown this is more than just speculation.

Looking ahead, manufacturers are searching for ways to take advantage of the physical properties of OLEDs. Spread the electroluminescent film between two malleable plastic sheets, and the lamp is flexible. At the moment, the printing process that bonds the film to plastic determines the size of each OLED module, but GE is currently working on how to print on large rolls, much like a newspaper press. Terao sees OLED technology integrated into ceiling troffers in the workplace or engineered into a medium capable of being painted directly onto any surface to which a charge can be applied. Fantastic as it seems now, once the lab techs work out how to stabilize the film, just flip a switch, and the architecture is illuminated. □

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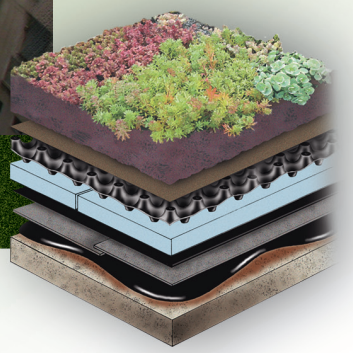

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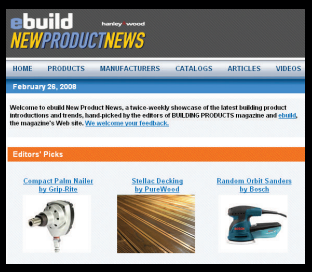


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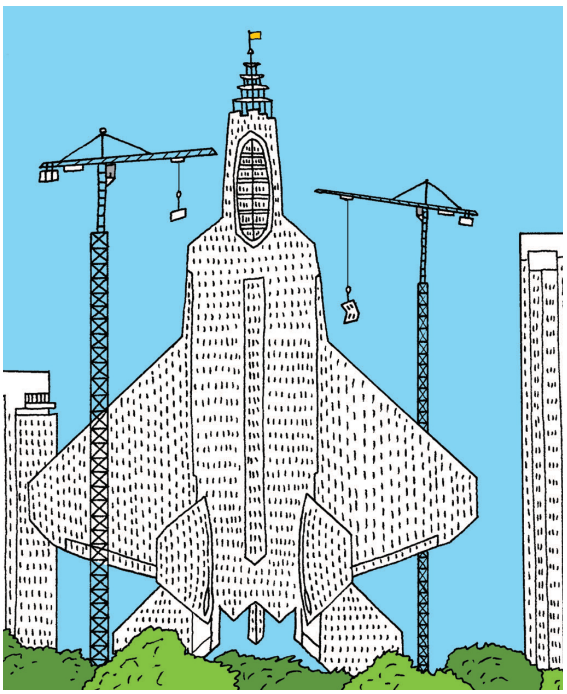
# The Art of War



TEXT BY LANCE HOSEY
ILLUSTRATION BY PETER ARKLE

## BY CONSUMING LESS ENERGY, ARCHITECTURE CAN HELP PROMOTE PEACE.

**"WAR IS THE GREAT TEACHER** of innovation," Undersecretary of Defense Ashton Carter told *Newsweek* last September. If only the F-22 fighter jet reflected that principle.

First proposed in 1981, during the height of the Cold War, when air-to-air combat ruled the Air Force, the F-22 took a quarter-century to be developed and deployed. By the time the first one lifted off in 2005, the Cold War was long over, and the hot wars in Iraq and Afghanistan were scruffy surface battles with no clear targets for traditional jets. Unmanned—and much cheaper—drones have proved more effective as scouts for ground troops. The very nature of war has changed, and not a single F-22 has been used in active theaters in the Middle East, yet over the next decade the Air Force wants 200 more, at a cost of $200 million each. The flyboy mentality still rules, even when there are no boys flying the planes.

Construction is by no means a great teacher of innovation, but its resistance to change is mired in an Air Force–like obstinacy. Starchitects are the Top Guns of architecture, and flights of ego can be a heavy anchor on invention. Industrywide, construction is still shackled by antiquated practices. The United States is the only major market not using the metric system; even the British no longer use the British system of measurement. Wood framing became popular when big trees were plentiful, steel framing when oil was plentiful. Two of the most common building types—the suburban single-family residence and the developer-driven commercial office building—serve outmoded postwar land-use patterns. Even as the commuter lifestyle wanes because more and more people are reclaiming inner cities and using public transit, those land-use patterns and building types show few signs of following suit.

War may or may not be a great innovator, but it is a great motivator. In 1973, the British chemist Sir George Porter told the London *Observer*, "I have no doubt that we will be successful in harnessing the sun's energy. ... If sunbeams were weapons of war, we would have had solar energy centuries ago." The sad irony is that the ongoing battle for Middle East oil has shown that sunbeams—properly harnessed—could actually help avoid war.

In *The Art of War*, Sun Tzu calls warfare "a matter of life and death, a road either to safety or to ruin," and the same may be said of construction. Building is an optimistic act, but since it accounts for 40 percent of U.S. energy use, it's also a potential accomplice to global conflict. By contributing to energy security, more innovative, less consuming buildings can become weapons of peace. □

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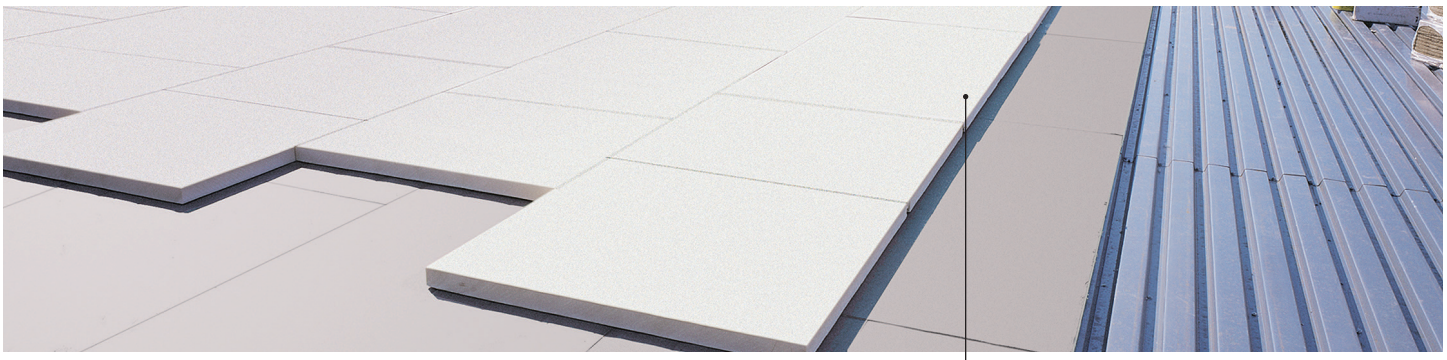

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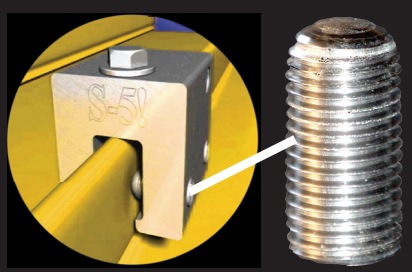

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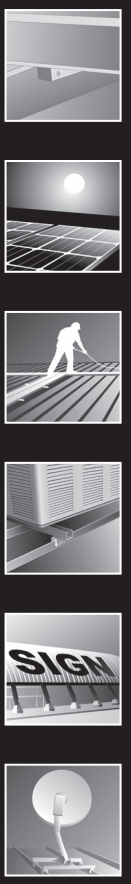

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# CULTURE

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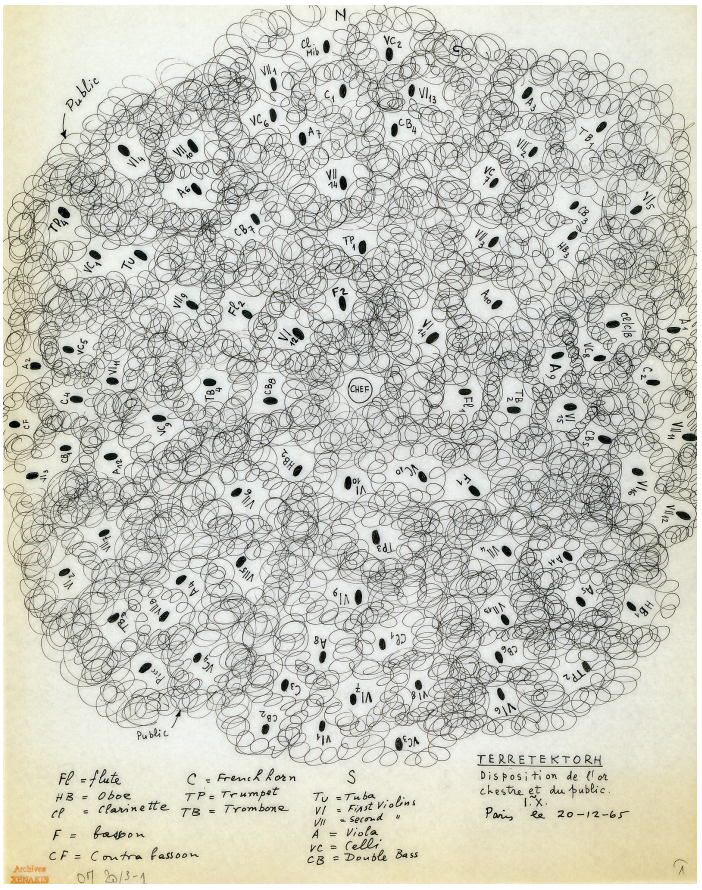
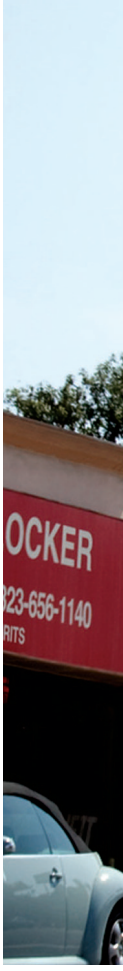
## →EXHIBIT

Frank Lloyd Wright's curvaceous **Guggenheim Museum** on New York's Fifth Avenue turned 50 last year, and what better way to celebrate middle age than to imagine a facelift? The iconic museum invited 200 artists, architects, and designers to consider their ideal interventions for the building's central space and is exhibiting the proposals in **"Contemplating the Void."** With submissions by the likes of Anish Kapoor, MVRDV, and Acconci Studio, the suggestions range from an inverted funnel of red smoke to a giant rock-climbing wall, as well as more-whimsical offerings, like Doug Aitken's *Untitled* (above). No need to panic, Wright enthusiasts: The interventions will remain purely theoretical. Through April 28. *guggenheim.org*

## →EXHIBIT

A civil engineer by training, **Iannis Xenakis** worked with Le Corbusier for more than a decade—and even designed the Philips Pavilion for the 1958 World's Fair, though Corbu took the credit—before turning his attention to avant-garde music composition, the talent for which he is more widely celebrated. "Iannis Xenakis: Composer, Architect, Visionary," at **The Drawing Center** in New York, is the first North American exhibition of his visual work: graphic notations, architectural designs, and compositional sketches such as the one at right, which shows the arrangement of 88 musicians for his mid-1960s piece *Terretektorh*. Through April 8. *drawingcenter.org*




## →BOOK

Reference books may seem hopelessly anachronistic in the age of open-source information, but Wikipedia is no match for the exhaustive research of ***Shaping the American Landscape***, a follow-up to the magisterial *Pioneers of American Landscape Design*. Editors Charles A. Birnbaum and Stephanie S. Foell cast a wide net: The book profiles 151 botanists, community activists, designers, earthworks artists, golf-course architects, and librarians. Some of the subjects are renowned, others less so, but all played essential roles, like Alice Morse Earle (1851–1911; below), who wrote an early history of pre-Revolutionary landscapes, the charmingly titled *Old Time Gardens*. $65; University of Virginia Press

## →EXHIBIT

**Zhao Liang**, a young Beijing-based artist, combines documentary-filmmaking techniques with those of popular media to comment on the urban realities of today's China. In the music video–style *Bored Youth* (2000), for example, he showed an actor running through the remains of a traditional Beijing neighborhood undergoing redevelopment. ***Heavy Sleepers*** (2006), a large-scale video environment now at the Walker Art Center in Minneapolis, depicts the interior of a dormitory for construction workers in the run-up to the 2008 Olympics. A slow camera pan reveals telling details about the laborers' lives. Through March 14. *walkerart.org*

CLOCKWISE FROM TOP LEFT: IANNIS XENAKIS ARCHIVES, BIBLIOTHÈQUE NATIONALE DE FRANCE, PARIS; COURTESY EILEEN COWIN AND THE MAK CENTER; DIRECTED BY ZHAO LIANG, 2006; COURTESY THE AMERICAN ANTIQUARIAN SOCIETY

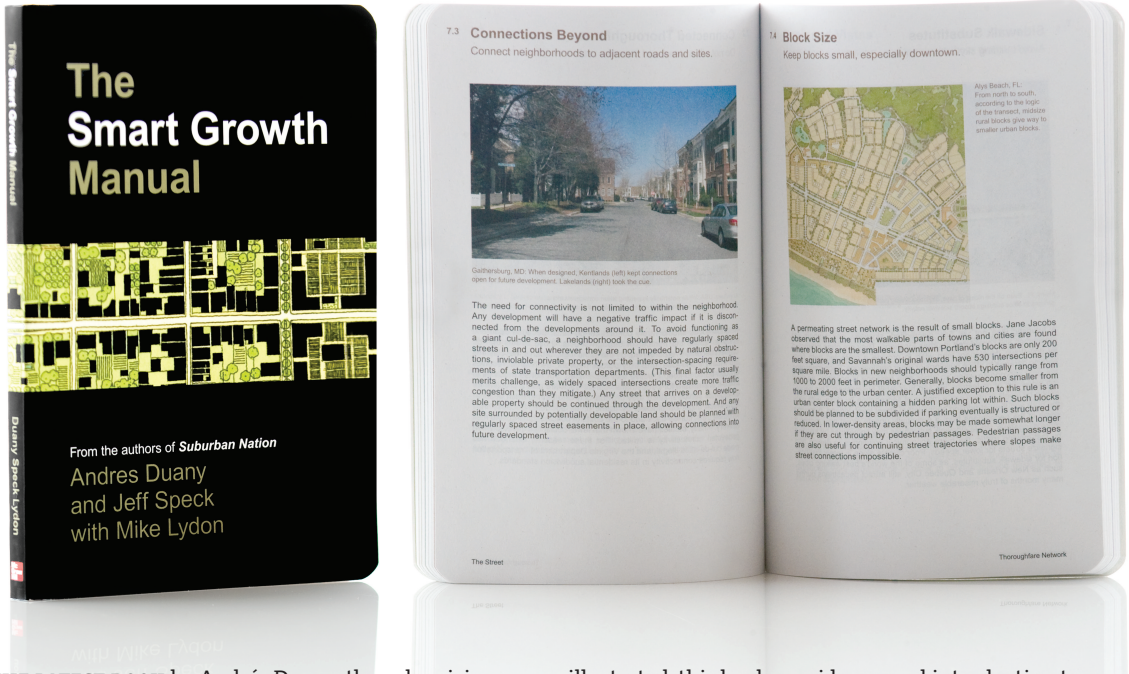
**→EXHIBIT**

Billboards are a hot-button issue in Los Angeles, where a challenge to the city's 2002 ban on new ones has been working its way through the legal system. The U.S. Supreme Court recently declined to hear the case, providing extra *frisson* to the first urban exhibit by the **MAK Center for Art and Architecture**. Featuring 21 commissioned works scattered throughout the city, including Eileen Cowin's *I love you too* (left), **"How Many Billboards? Art in Stead"** (howmanybillboards.org) sits at the nexus of popular culture, conceptual art, and the ever-harder-to-escape visual clutter of commercialism. Through March 26. *makcenter.org*

→CRIT

# How Smart Is Smart Growth?

***THE SMART GROWTH MANUAL*** IS A CITIZEN'S POCKET GUIDE TO ANTI-SPRAWL PLANNING PRACTICES AND A PRIMER ON NEW URBANIST THOUGHT.




TEXT BY ROBERT BRUEGMANN

**Robert Bruegmann** is the University Distinguished Professor of Art History, Architecture, and Urban Planning at the University of Illinois at Chicago. He is the author of *Sprawl: A Compact History* (2005) and *The Architecture of Harry Weese* (forthcoming, 2010).

**THE LATEST BOOK** by Andrés Duany, the galvanizing force of the New Urbanist movement, and Jeff Speck, the city planner and designer who was Duany's collaborator on a previous book, *Suburban Nation*, attempts to codify thinking about Smart Growth. It appears to be intended both as a primer for card-carrying New Urbanists and as a set of arguments designed to convince those who remain skeptical or hostile to that movement.

In some aspects, *The Smart Growth Manual* (McGraw-Hill Professional, $24.95) succeeds admirably. Perhaps the most important thing it does is to suggest the evolution in thinking that allowed a small vanguard of the 1980s—interested primarily in a cluster of ideas about houses, sidewalks, streets, and neighborhoods—to grow into a widely popular movement that attempts to deal with the entire built environment and to bring its practices into line with ideas about Smart Growth. (However, the authors never really define this term, except as the opposite of "dumb growth," which they seem to equate with automobile-dependent sprawl.) Concise, clearly written, and well illustrated, this book provides a good introduction to New Urbanist thought.

One admirable feature of *The Smart Growth Manual* is its consistent attention to the basic building blocks of our urban areas, from the window mullion to the layout of entire towns. There are interesting, often quite convincing, arguments about streets and sidewalks, bicycle pathways, the recycling of construction waste, operable windows, and the placement of benches, to name just a few. These pages help explain why New Urbanist ideas have become so important in contemporary American urban planning: When planners moved away from architecture and physical design in the postwar years and embraced instead the world of the social sciences and statistical tables, they found they still needed some kind of systematic recommendations about the built environment. It is easy to see why the carefully honed formulas seen in this book would be attractive.

Yet virtually all of the founders of the New Urbanism were architects, not planners, and when it

comes to large-scale urban planning issues, the authors often appear to be on shaky ground. Quite a few of their assertions about environmental matters and transit, for example, are dubious at best. To cite just one example: Duany and Speck write that the high-speed rail line between San Francisco and Los Angeles will move passengers between the two cities "in 2.5 hours for a price of $55 and a with a $CO_2$ reduction of 324 pounds per passenger." A quick online search shows that this claim comes directly from the promotional material of the California High-Speed Rail Authority. There is no good account of where the money to build the system will come from, when it will be finished, or how the agency arrived at the unlikely figures for projected fares and $CO_2$ reduction (which, on the agency's website, is per train run and not per passenger).

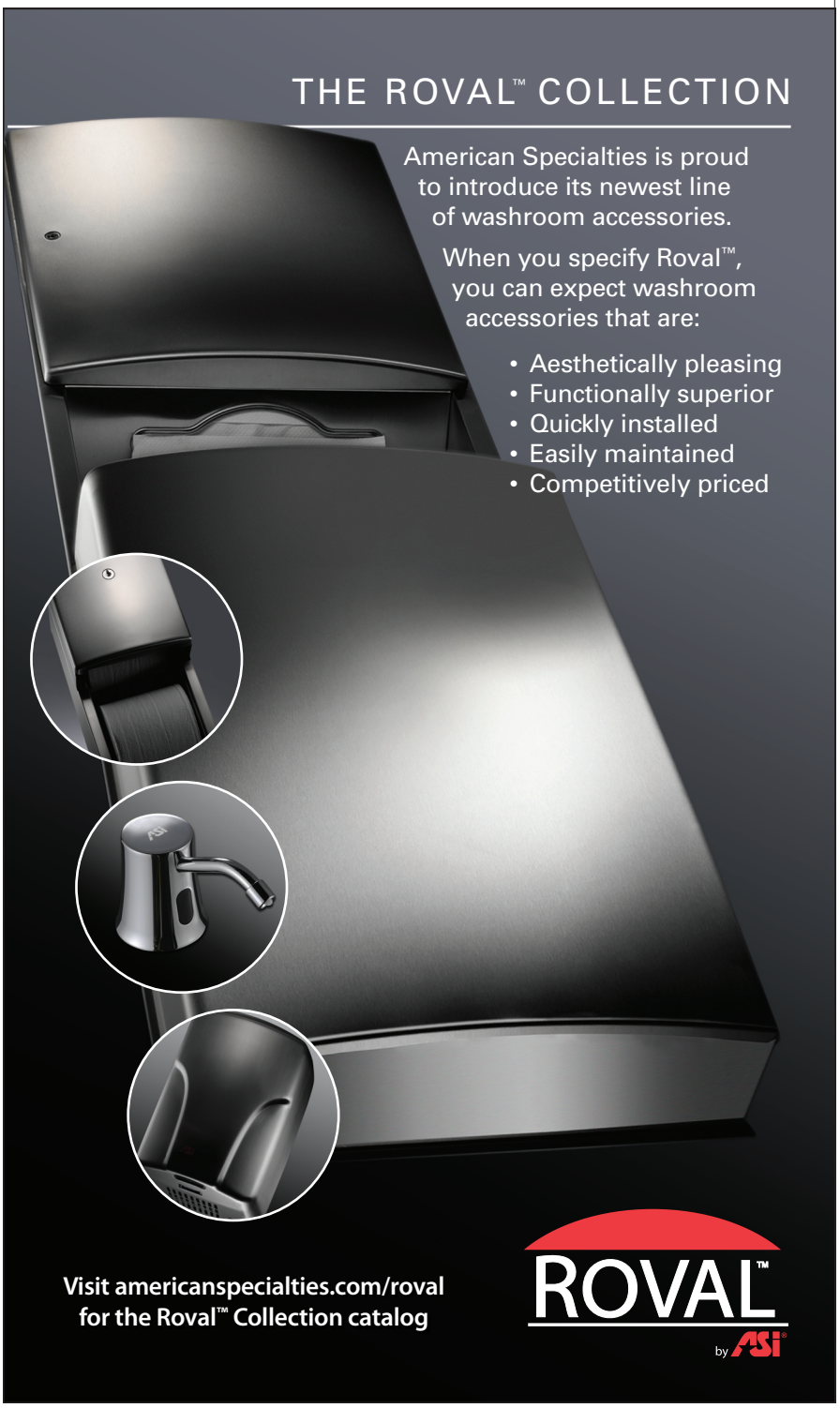
The book also provides good evidence as to why New Urbanist ideas have excited such violent antipathy among many architects, particularly in schools of architecture. The images are particularly revealing. It is difficult, for example, to distinguish in aerial views why the supposedly "smart" development at the Kentlands, in Gaithersburg, Md., is different in any substantial way from the landscapes that are identified as suburban sprawl. What the "good" examples all appear to have in common is their similarity to tasteful, upper-middle-class, gentrified districts. Most architects probably don't reject this kind of design, but they do fear that the New Urbanists are not, as they claim, interested in offering a choice but in gaining control of the regulatory apparatus in order to block all kinds of buildings they don't like.

Unfortunately, despite the authors' disclaimers, *The Smart Growth Manual* gives ample grounds for this fear. Duany and Speck cite, apparently approvingly, outright bans on everything from cul-de-sacs to "snout houses"—those with the garage in front, which would seem to be, from a functional viewpoint, an entirely logical place for the garage in today's suburbs. They concentrate, moreover, on only a few elements of the urban fabric. Despite talk of complete and diverse neighborhoods, the messier parts of vital cities—from the neighborhood bar to the 7-Eleven in the suburban strip mall—seem to be missing.

In general, the book reflects a curiously static view of history and urban change. It suggests that there was a millennial tradition of neighborhoods that came to an end with post–World War II sprawl. But this view seems to ignore the historical literature that shows a vast array of different historic urban patterns and evidence in books that the trends toward bigger scale, decreasing densities at the center, burgeoning suburban expansion, and increasing segregation of land uses and income groups have been with us for at least the past several hundred years everywhere in the affluent world.

The authors also demonstrate little interest in new technologies that could revolutionize urban form as new technologies have done many times in the past. Nor is there any apparent interest in the fact that, just at the moment that New Urbanists are trying to erase the legacy of the postwar era—with its suburban subdivisions, highways, and urban renewal projects—preservationists, historians, and architects such as Rem Koolhaas are looking at all of these with renewed interest and respect.

However, in the end, all of these omissions and curiosities probably faithfully mirror the world view of many New Urbanists. For that reason, *The Smart Growth Manual* is likely to stand as an important landmark in the history of that movement. Both proponents and critics will find much to engage them in its pages. □

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# buildingdb.ctbuh.org

MUCH ABOUT ARCHITECTURE IS SUBJECT TO DEBATE, BUT THE COUNCIL ON TALL BUILDINGS AND URBAN HABITAT HAS THE FINAL WORD WHEN IT COMES TO HEIGHT.

TEXT BY BRAULIO AGNESE
PHOTO BY TIM EVANS

**ON JAN. 4, DUBAI'S BURJ KHALIFA** officially opened, as did the newest online version of the Tall Buildings Database, maintained by the Chicago-based Council on Tall Buildings and Urban Habitat (CTBUH). If you visited the site that day, you would have seen that Skidmore, Owings & Merrill's blockbuster was coded blue (completed) instead of pink (construction) and that it topped the "tallest completed" list. Minor points, perhaps—hadn't it been the tallest for some time? But for the CTBUH, a 40-year-old, industry-supported nonprofit that keeps official records for buildings at least 150 meters tall, such details are important.

Take, for instance, the criterion for height, which the CTBUH changed last year. Previously, buildings were measured "from the sidewalk level outside the main entrance." But "the way buildings are developing now, especially supertalls," says Jan Klerks, manager of research and communications, "they're multifunctional, and each function has its own entrance. We noticed entrances might not be on the same level." The criterion was changed to say "from the level of the lowest, open-air, pedestrian entrance." As a result, without adding a brick, the height of many buildings changed—including Chicago's Trump International Hotel, which gained eight meters, pushing it past Shanghai's Jin Mao Building. (See? Details matter.)

The new database is far more interactive than previous iterations and offers users the ability to create custom lists of buildings by year, function, and location. It also helps one comprehend, among other things, Asia's explosive growth. Search Shanghai, for example, and you'll find that in 1988 it had one completed building in the database; by 2009, that number had skyrocketed to 96. "It's difficult to keep up" with China, says database manager Marshall Gerometta. "Korea and India, too." But wherever towers are being planned and built, the CTBUH will put it on record. □

When it comes to skyscraper height, the Web cuts both ways for the council, which tracks 10,000-plus towers across eight categories. "The moment [someone] presents a number, that number becomes the 'truth,'" says research and communications manager **Jan Klerks** (left). "If you have an official number after that, it takes some effort to get it recognized." On the other hand, notes **Marshall Gerometta**, who has maintained the Tall Buildings Database in its various forms (handwritten lists, IBM data cards, spreadsheets) since the late 1960s, making the council's data accessible "invites people to contribute information that's missing or incorrect in our database."

## LINKS

**youtube.com**
Wielding a tape measure like some jobsite ninja, an anonymous contractor shows impressive skills with the otherwise humdrum tool. • *bit.ly/bk2a9M*

**www.lancs.ac.uk**
John Ruskin's *The Stones of Venice*, published in three volumes from 1851 to 1853, ranks among the 19th century's most influential treatises on architecture. The Ruskin Library and Research Centre at Lancaster University offers scans from the critic-artist's notebooks that were filled during his 1849–50 stay in Venice, as well as transcripts and other scholarly materials. • *bit.ly/9lsbHp*

**itunes.apple.com**
Chicago is rightly celebrated for its collection of top-tier building designs, both old and new. If you own an iPhone or iPod Touch, ARCHITECT editor-at-large Edward Keegan, who has called the Windy City home for more than a quarter-century, has developed "Chicago Architecture," a $2.99 application to guide you to dozens of the city's landmarks and hidden jewels. • *bit.ly/b3lqdj*

**thirdseventh.com**
A gorgeous 12-minute film by Alex Roman, *The Third & The Seventh* is a meditation on architectural spaces and forms and the act of photographing them. Apart from a few real-world elements, everything in the film is computer-generated—which, once you've seen it, makes *The Third & The Seventh* even more of a wonder.

**the-original-epcot.com**
In "A Commodified Utopia," Matthew Arnold looks at the planning and design history of Walt Disney's EPCOT (Experimental Prototype Community of Tomorrow), in Florida, which never became a reality and bore no resemblance to the Epcot Center that opened in 1982. The creator of Mickey Mouse, writes Arnold, "was consumed with the prospect of planning an urban landscape unlike anything that had come before. ... For Disney, ... planning techniques like urban renewal and political reform paled in comparison to the combined power of technology and efficiency enabled by modern capitalism." • *bit.ly/aDlkxy*

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# NEW PRACTICE UN-PRACTICE

## AS TRADITIONAL JOBS VANISH, STARTUPS BLOOM.

TEXT BY AMANDA KOLSON HURLEY
PHOTOS BY NOAH KALINA

### PRE

**Location** New York and Providence, R.I.

**Partners** From left: Daniel Kidd, Aaron Davis, Zachary Colbert, and Leah Meisterlin

**Motive** "PRE is ... the think-tank that comes before the practice. ... Facing a stale job market, we decided to create our own work as part of a longer term strategy to be very well placed and lean when the market comes back around." *—Zachary Colbert*

**NOW IS A TIME** when a lot of young architects are striking out on their own. Admittedly, this could be said of any period in the past 50 years: Businesses launched from a partner's basement or with a loan from Uncle Stan have become the stuff of cliché. But recessions tend to accelerate the formation of new firms. "More new firms start in a period of recession than at any other time," says management consultant Peter Piven.

Generation X and Y architects may be more willing—and better equipped—to start their own practices than their predecessors were. Two factors seem to be propelling them into entrepreneurship: The first (no surprise) is the Great Recession, which has made architectural internships and associate positions at established firms extremely scarce. Back in the 1990s, laid-off architects could set off on an alternative career path—they might join a tech company, for example. "The problem is, this recession is deeper and broader than the last time, so those opportunities aren't as prevalent," Piven says. Unable to find employment even outside the profession, many of today's young architects figure they might as well chase clients instead of job leads.

The other factor is improved technology. An architect in Seattle can share CAD documents with her partner in Atlanta; Skype calls can replace many in-person meetings, and they cost far less than a plane ticket to see a client in Mexico City or Seoul. High-speed wireless Internet at home can obviate the need for dedicated office space (if you've got a staff of one or two).

So while the phenomenon of young architects taking the leap is nothing new, there never have been fewer barriers to launching a practice (except, perhaps, the erosion of credit over the past couple of years—which might explain the blossoming of various low-to-no-overhead business models). In the pages that follow, ARCHITECT spotlights three emerging firms around the country. They may differ with regard to experience, goals, and design sensibility, but all are gutsy and creative enough to reassure us that American architecture will continue to thrive post-downturn. How could it be otherwise?

## XChange Architects

**Brookline, Mass., and San Francisco**

In September 2008, Derrick Choi turned on the TV in his hotel room near Schiphol Airport in Amsterdam and learned that the investment bank Lehman Brothers had just collapsed. Foggy from air travel—he was shuttling back and forth between Amsterdam and Abu Dhabi at the time—he didn't grasp the full import of the news. "The global recession was a nebulous concept," he says now. If his head had been clearer, he might have panicked: He had launched his own business a few months earlier.

A year and a half later, there's no need for panic. XChange Architects has grown from one person to "an army of three," Choi, 35, jokes. Jonace Bascon, 36, a former classmate of Choi's at Harvard's Graduate School of Design (GSD), leads the firm's San Francisco studio, which has a focus on higher education. Lynn Hsu, 36—previously of Kyu Sung Woo Architects and also a GSD alum—works with Choi in their Brookline, Mass., studio. Bascon and Choi are both principal architects; Hsu is a senior consulting architect, a role that appealed to her when she decided to re-enter the workforce after a stint at home with her twin sons. "I was interested in trying something different, a little more flexible," she says. At XChange, she can take on side projects and largely set her own hours: "It's not the set 9-to-5 thing anymore."

The firm's breakout project was planning and feasibility work for Abu Dhabi International Airport. "We were given the design lead on a 250,000-square-foot arrivals hall and administrative facility," Choi says; the project is scheduled to start construction later this year. But XChange is proving to be admirably nimble, tackling not just transportation and infrastructure projects—these are Choi's special interest, dating back to his summer intern days at Skidmore, Owings & Merrill and continuing through his more recent stint as a project director at AECOM—but also a Talmudic study center, for the Kollel of Greater Boston (with Jacobson Spear Architecture), and a retractable sidewalk café system, for Allston Village Main Streets. The latter project, now in development, received a design excellence award from the Boston Society of Architects in 2009.

Even this early in the firm's life, Choi has formulated some rules to prosper by. First, freeware and filesharing can be your best friends. "We have found that it costs virtually nothing, other than an AutoCAD license, to be very competitive," he says. XChange primarily uses SketchUp for renderings, and team members share files via dropbox.com, essentially a free FTP site. Skype has been "incredibly functional" for conference calls—"a hundred times cheaper than other WebEx options that were all the rage about two years ago," Choi remarks. Still, he admits that there is some risk involved when you rely on free tools alone—which is why XChange backs up files every day on a portable remote drive.

Against the advice of many a management consultant, XChange enters competitions regularly. "[In summer 2009] we started winning competitions; this is, ironically, becoming a key source of sustenance," Choi says. "We're getting ... into some public work through community-based competitions and other charrettes, and getting [our] name out there on a pro bono basis."

Seeking out partnerships is another important strategy. Although Choi felt ambivalent about it, XChange pursued and received designation as a minority and disadvantaged business enterprise (MBE and DBE) in the city of Boston and the Commonwealth of Massachusetts. Choi is glad they went through with it, because many transportation projects are awarded by agencies with a minority participation target. XChange is also aiming for federal work by pursuing the Small Business Administration's 8(a) business development certification for small, low-net-worth businesses.

So now the huge A/E firms come knocking in hopes of partnering up. "I do have a lot of big A-and-E's reaching out to me, saying, 'We couldn't have found a better arrangement,'" Choi says. "Reconnecting with [them] has really made a difference for us."

## PRE

**New York and Providence, R.I.**

Last spring, four Columbia University M.Arch. students got together over a few bottles of sake and started talking. They had recently returned from a studio trip to Asia and decided they'd like to start a practice together. Or, if not a practice, some kind of common architectural venture. They weren't exactly sure.

### XChange Architects

**Location** Brookline, Mass., and San Francisco

**Staff** Jonace Bascon (not pictured) and Derrick Choi, principal architects; Lynn Hsu, senior consulting architect

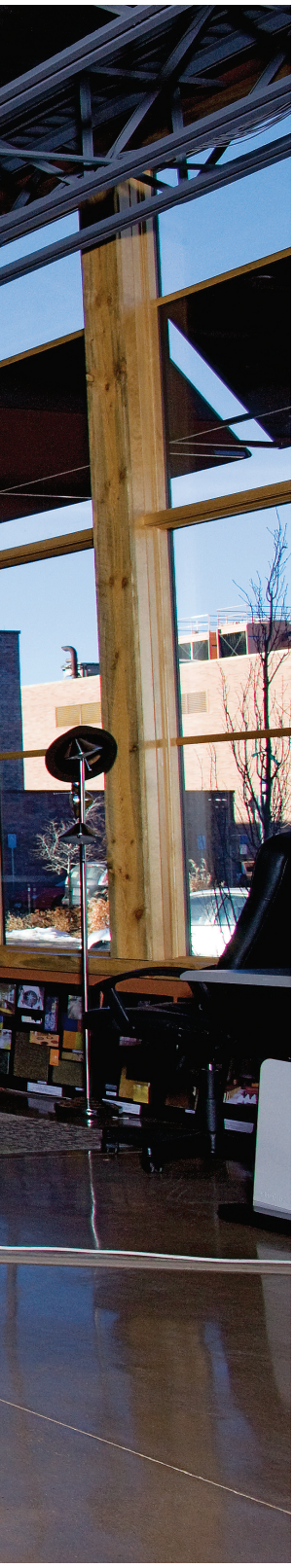
**Motive** "When I left school in 2000, I really wanted to focus on being an infrastructure and transportation expert. Having that base of contacts ... made it a lot easier for me to consider going off on my own."
*—Derrick Choi*

## Hyperform Design Co-op

**Location** Arvada, Colo.

**Directors** Eric Anderson, Tim Geisler, and Carrie Momeni, pictured below (from left), with Ripley the dog and fellow co-op members Daniel Gonzalez, Dorothy Ma, Tim Nuanes, and Sonja Holmes.

**Motive** "Everybody's so stressed out with the economy. All of our members want to be involved in something like this, and they want to have opportunities to make a living. We're doing our very best to satisfy both of those needs."—*Tim Geisler*



They thought it would be a good idea to ask the established architects they knew to recount their own experiences and offer suggestions on how to start a firm. As they interviewed more architects, they realized the discussions would hold interest for a much wider audience—all the other young designers who were trying to find their way in a terrible economy. "A lot of the experience [touched on in the interviews] is typically something someone would learn on the job, but those job opportunities don't exist," says Leah Meisterlin, one of the foursome.

So out of the interviews came a book project, *Conversations with Architects*, as well as a proto-practice: PRE. Meisterlin, 29, is a partner, along with Zachary Colbert, 28; Aaron Davis, 27; and Daniel Kidd, 28. Davis lives in Providence, R.I., and the others live in New York. In order to bridge the distance, "we use the Google suite of free networking/office tools a lot and have weekly videoconferences via webcams," Davis explains.

To call PRE a firm is not quite accurate. PRE's partners idealistically describe it as a collaborative and emphasize that they bring different interests to the table, although they share the same restless, inventive approach to practice. "We are passionate about space and believe in a certain 'rearguard' position of practice," Davis says. Meisterlin says the common ground the partners occupy is "a commitment to not necessarily knowing what practice is at any given time, but constantly trying to figure that out." (Which explains the name.)

PRE doesn't have a physical office, although that might change. "We have potential projects on the horizon; if they [come] through, we'll need an office," Meisterlin says. Its only overhead so far is its website. All four partners have day jobs or freelance projects (or both), but hope to make PRE their full-time focus. "We're working on things that will bring in money eventually," Meisterlin says. "Because we're new, we only recently got our act together about the legal stuff." (They bartered design work for legal services.) PRE just received its first check—not bad, considering the partners finished graduate school in May.

PRE is talking to publishers about *Conversations with Architects* and expects that the book—potentially the first volume of a series—will be published fairly soon. Its next initiative is Spontaneous Architecture, a design competition that erases some of the usual hurdles to participation, i.e., man-hours and money. Spontaneous Architecture charges a $5 entry fee and asks entrants for a single image with 100 or fewer words of text. People from four continents signed up for the inaugural contest.

With so many commitments in addition to PRE—Colbert teaches at Columbia and works for Bernard Tschumi Architects; Davis teaches at the Rhode Island School of Design; Kidd does consulting work and taught at Columbia last semester; and Meisterlin is a map designer and researcher—how do they keep the collaboration going? "Sheer will," Meisterlin says. Davis notes that their open-source mode of working helps: "It allows us to work at all hours of the night without necessarily needing to leave our apartments."

## Hyperform Design Co-op

**Arvada, Colo.**

In late 2008, Carrie Momeni started getting together with fellow out-of-work designers in the Denver area. She had met Tim Geisler through a mutual friend; every Tuesday, she and four or five other people would gather in Geisler's house for coffee and commiseration. Before long, they started to discuss theoretical projects. They came to believe, Eric Anderson recalls, that "perhaps it would be easier to pursue clients of our own instead of knocking on doors that wouldn't open."

When an education project came their way—through luck and a contact of Geisler's—they mobilized to claim it. Hyperform Design Co-op was born.

Geisler, 42, found a studio space in a building in Arvada, about seven miles from downtown Denver. The building is owned by a longtime acquaintance of his, engineer Joe Jehn; the building also houses Jehn's engineering company. Hyperform agreed to provide design services to Jehn in lieu of rent. The designers moved in and built desks and a room divider on wheels, mainly out of salvaged materials; they duct-taped together squares of carpet samples for flooring.

The co-op now has about 50 members, Geisler estimates, with "about 10 people who are involved on a daily basis." Membership is free, and members include architects, landscape architects, interior designers, industrial designers, and graphic designers. Hyperform's "three pillars," as Geisler calls them, are that it's a nonprofit entity; that the directors—currently Geisler, Anderson, and Momeni—are unpaid; and that it's an open forum, which means that members can't use information gained at the co-op to tilt the playing field in a competitive situation.

Although the co-op tag might conjure an image of granola and Birkenstocks, Anderson, 48, cites one very mainstream inspiration: New York's design-focused temp agencies, which allow small firms to hire an extra person for a month or two. "For us, it's an old idea that hasn't really been utilized here in Denver," he says.

Most members have their own business entities or side jobs but can jump into a co-op project if the opportunity is there (so far, a parochial school in Texas is the co-op's only significant project). Momeni, 30, who plans to sit for her ARE exams at the end of the year, teaches yoga part-time and picks up odd jobs, "whatever people need help with. I need to pay my bills." She doesn't get a regular salary—like other members, she takes a cut of project fees—but she would rather work this way than have to leave the profession. Geisler has his own firm, and the Texas project is insured through it—umbrella insurance for the co-op "gets very complicated," Anderson says, so for the moment, members take legal responsibility for the projects they bring in.

At press time, Anderson was gunning for another project, a charter school in Denver. The credentials of another member are crucial for the bid. "We can really pull from people's experience in different project types," notes Anderson, an advantage over narrowly specialized firms. Whatever happens, the directors have reinvested enough revenues to keep operating through 2010.

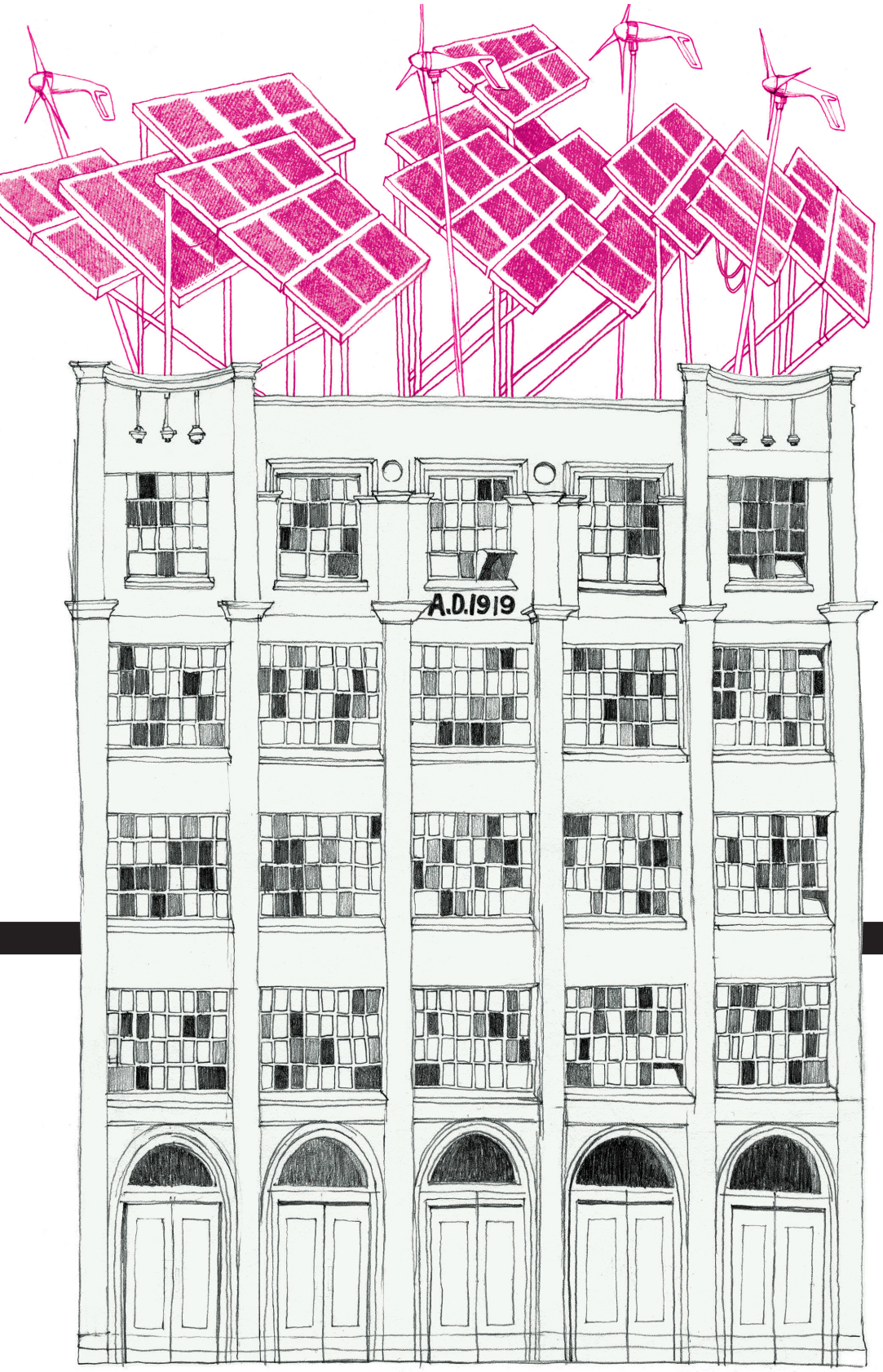
"Any member can come and share our resources here, and have a collegial environment in which to work. The whole thing is about enabling people," Geisler says.

Member Amy Burke, an architectural designer, likes having a place where she can network, attend educational events, and use reference materials like code books: "It sort of operates like a firm, without all of the overhead that comes with a firm." □

TEXT BY BRADFORD MCKEE
ILLUSTRATIONS BY LAUREN NASSEF

# FUTURES OF THE

WITH ITS LONGTIME LEADER ABOUT TO STEP DOWN, WHAT'S NEXT FOR **THE NATIONAL TRUST FOR HISTORIC PRESERVATION**—AND THE MOVEMENT IT REPRESENTS?

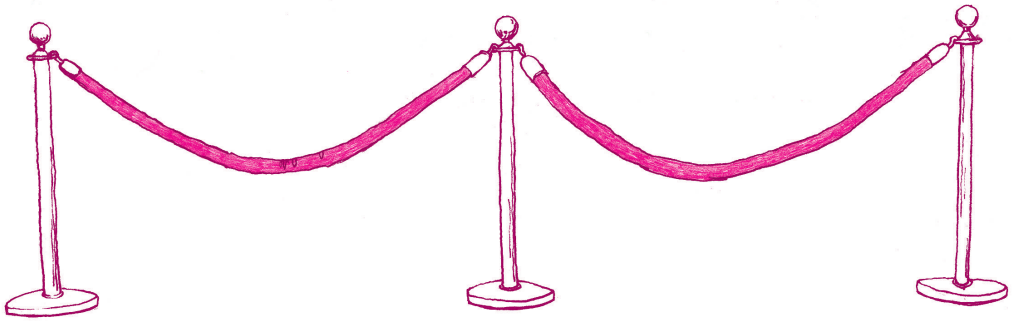



← PRESERVATION IS GREEN

# PAST

**SOMETIME IN THE NEXT** few months, Richard Moe will retire as president of the National Trust for Historic Preservation, a job he has held since 1993. Moe, who is 72, announced his retirement in the fall but said he would wait for the group to name his successor. When he does depart, he will leave behind an organization, and a movement, that has completely transformed in the 17 years since he arrived in the captain's quarters from a career in politics and the law.

A couple of big milestones helped to define Moe's years at the National Trust. In the mid-1990s, he led the group to stop taking a large chunk of its annual budget from Congress; at the time, that was worth about $7 million, but, he said, the purse had too many political strings



## ↑ PRESERVATION IS ABOUT NEIGHBORHOODS

attached. The trust began raising funds in new ways, and since then, its yearly budget has nearly doubled, to $55 million, and its endowment has soared to around $200 million, up from $33 million. And in a fight that gained national headlines in the mid-1990s, the trust beat back an attempt by the Walt Disney Co. to build a theme park near Civil War battlefields in Virginia.

Other achievements have been slower and steadier. Observers credit Moe with taking preservation to the people by funneling money and encouragement toward state, regional, and local preservation groups, and building a solid network of activist affiliates in preservation. The National Trust's mission changed not by drifting from its core imperatives of saving great old buildings, but by expanding what that core might plausibly include.

Gradually, preservation has grown from a relic-focused connoisseur's concern to a multifaceted populist movement dedicated to preserving more ineffable forms of history and threatened ways of life. Its daily work now bleeds into a number of disparate fields where common causes are to be found, such as community development (a shift that began as early as the 1960s), environmental protection, public health, land conservation, and cultural heritage. It was never called merely the National Trust for Saving Historic Architecture, after all.

"The trust has tried really hard to connect preservation back to other dynamics in society without alienating its core constituency," says Randall F. Mason, chairman of the graduate program in historic preservation at the University of Pennsylvania. "The more preservation engages with the other big, urgent questions in society and the built environment, the better."

Mason believes that one reason Moe's tenure has been so successful is that Moe came not from preservation, but from politics—that is, "some other energy center." In a recent interview with ARCHITECT, Moe confessed that when he landed at the National Trust, "I knew nothing. I didn't spend a day in preservation." (He was, however, a history buff and had written a book on Civil War soliders.)

As for Moe's successor, at press time, no names of candidates had been credibly leaked. But with the transition at the trust likely to happen before the end of spring,

now is an interesting time to outline what kind of realities define the organization as it moves into the next decade. Most of them are so intertwined, however, that it is hard to consider them on their own.

**Saving older, denser neighborhoods by opposing sprawl.**
An endless mission, so far as anyone can see. The fight against the Disney park was aimed in large part at protecting sensitive battlefield sites, but it also helped to cement the group's role in discouraging relentless expansion of subdivisions into the undeveloped edges of metropolitan areas. For the National Trust, fighting suburban sprawl has at least two major motives behind it: It helps prevent the further withering of older, denser city centers, and it helps reduce carbon emissions that may contribute to climate change.

The trust's Main Street Center, now at work in more than 1,600 cities and towns, began as a pilot in the late 1970s to try new approaches to revitalizing older business districts, some of which had been left for dead by interstates, malls, and industry abandonment. Success stories include the Federal Hill neighborhood of Baltimore, which has recaptured business lost to the city's Inner Harbor development: organizers claim 270 net jobs created, 84 new businesses, and a vacancy rate of 4 percent, down from 20 percent. Likewise, Emporia, Kan., counts $40 million in new investment in its downtown, about $33 for every Main Street dollar spent.

For the National Trust, the key was to take not just a building preservation angle but to look at land-use practices in a broader context. "You can revitalize and rehab buildings, and do marketing events out the wazoo," says Kennedy Smith, a preservation and planning consultant in Arlington, Va., who ran the Main Street program for 13 years until 2004. "But if a community isn't changing its planning and land use, it really doesn't matter."

The trust's work for older districts and against sprawl takes numerous angles. Royce Yeater, the director of the group's Midwest office, is helping to direct a campaign called Helping Johnny Walk to School, which encourages municipalities to renovate older school buildings and to plan new schools in the centers of communities, rather than at their edges. The grantmaking program helps retain existing schools; promotes closely knit neighborhoods and physical activity among kids; and also helps fight sprawl.

"Once you get into it, it's amazing how unified these issues become," Yeater says. "We're solving multiple problems at once."

**Promoting building reuse as a means of fighting climate change.**
People who work in preservation like to say that reusing an existing or historic building is inherently more sustainable than building from scratch, regardless of whether demolition is involved. There is a lot of frustration, however, about the importance accorded to preservation in the dominant third-party sustainability rating system, the U.S. Green Building Council's (USGBC) LEED certification.

In interviews, a number of preservation professionals lamented that for most of LEED's existence, reusing an extant structure got a project one point toward its final score, the same amount given, many observed, for using recycled carpets. Barbara Campagna, a staff architect for the National Trust who oversees its historic sites, has been working for the past three years with the USGBC. She notes that the newest version of LEED raises the possible points for retaining a structure to four, and there's another gain for historic buildings under the category Sustainable Sites, which can be worth up to six points. For now, that's about as good as it gets because there are a number of problems to work out.

"One of the basic issues is that there is very little data on existing buildings" and the environmental impacts they show over time, Campagna says. "There is a lot of data on new buildings in the past 10 years. So while preservationists go around saying, 'Our buildings are the greenest,' there is no data to support it."

Arguments in existing buildings' favor are largely anecdotal—and LEED is a science-based rating system. The trust hopes to use lifecycle assessments of existing buildings to determine their long-term impacts. Most of a building's environmental effects occur during its operation and maintenance, not during construction; so the first challenge is to figure out what impacts can be measured empirically, such as resource use and carbon emissions. There are other challenges, such as whether to measure "squishy" factors (e.g., Is there a psychological benefit to living in historic surroundings?).

Once a consensus can form around ways to measure preservation's environmental impacts, then the trick will be coming up with defensible data that may—or may not—show preservation's inherent benefits for the planet.

PRESERVATION HAS GROWN FROM A RELIC-FOCUSED CONNOISSEUR'S CONCERN TO A **MULTIFACETED POPULIST MOVEMENT** DEDICATED TO PRESERVING MORE INEFFABLE FORMS OF HISTORY AND THREATENED WAYS OF LIFE.

# ONE OF THE TRICKIER ISSUES WILL BE HOW 1960s RANCH-HOUSE NEIGHBORHOODS ARE TREATED BY PRESERVATIONISTS. **SPRAWL IS NOW BECOMING HISTORIC.**

## ↑ PRESERVATION IS MODERN

**Conserving the recent past.**
Nothing changes faster than notions of what's old. The past 10 years have seen more agitating on behalf of modernist structures that are reaching the age of 50, which is the general eligibility age for the National Register of Historic Places. Not that the agitation is universal: As these structures start to show their age and outlive their intended uses, modern styles of architecture (Brutalism in particular) don't always command the love of the public at large or of local governments.

In Chicago, the city government is tearing down the work of Walter Gropius at the 37-acre Michael Reese Hospital complex on the South Side. The vacant campus was to be cleared for the Olympic Village if Chicago had won its (unsuccessful) bid for the 2016 games, but the city has gone ahead since last fall and begun demolishing all but two of the buildings—constructed from 1948 to 1958—anyway, despite scathing opposition and in hopes of attracting a developer to the site.

"We cannot save all buildings. It costs a tremendous amount of money," Mayor Richard M. Daley told the *Chicago Tribune*. "How are you going to reuse it? Who's going to pay for it?"

The issue of 1960s architecture looms conspicuously in Los Angeles, where perennial development pressures put 1960s buildings at risk—both signature structures and more mundane architecture that contributes to the larger urban fabric. The Los Angeles Conservancy has been pushing its The Sixties Turn 50 campaign to get the public thinking about the importance of the period. "We don't want to be saving what's left of the '60s," says Linda Dishman, the conservancy's executive director. "We want to start that awareness now."

One of the trickier issues will be how 1960s ranch-house neighborhoods nationwide are treated by preservationists and planners, says Yeater. "The sprawl that started all of our frustrations is now becoming historic," he says. "Some suburbs recognize that, but it goes back to the sustainability issue. They're going to be very difficult to sustain." But any efforts to fix extant suburban patterns "will run smackdab into the fact that those neighborhoods are becoming historic," Yeater says.

"By the 50-year threshold, we're up to 1960 now," he adds. "I hope I die before I get to the '70s."

**Promoting diversity and localism.**
Hector Abreu, a preservation consultant and educator based in San Juan, Puerto

Rico, has noticed over the past 20 years how many more women and minorities have entered the preservation professions. "When I started, it wasn't a very diverse field," he says. By 1997, however, when he started teaching at the Savannah College of Art and Design, "We had a lot of women—over 60 percent of the student body at one point—and also African-Americans and Latinos."

Abreu also tried to make his students aware of the ways preservation projects can quickly transform the demographics of neighborhoods, especially in lower-income areas that are being revitalized, often at the expense of immigrant residents. Although preservation planners may set out to restore a single building, "we've almost become these advocates for social change," which can have effects both good and ill.

It is often said that all preservation is local, but now, with the saturation of the Internet in society, preservation has turned hyperlocal. Frederick Bland, an architect and the managing partner of Beyer Blinder Belle, has served since 2008 as a member of New York City's Landmarks Preservation Commission. Much of the conversation about preservation is now occurring online. "Everything is shared instantly, and everybody knows everything all the time," Bland observes. "You used to wait for the community meetings and so forth."

Michael Allen runs the website Ecology of Absence in St. Louis, Mo., which has a huge following locally but also globally. It was Allen who last year revealed the identity of a secretive developer who has amassed 1,200 acres of real estate near downtown. When residents aren't getting answers from elected officials about development issues, Allen says, "They can get it to the Net and get it blown wide open."

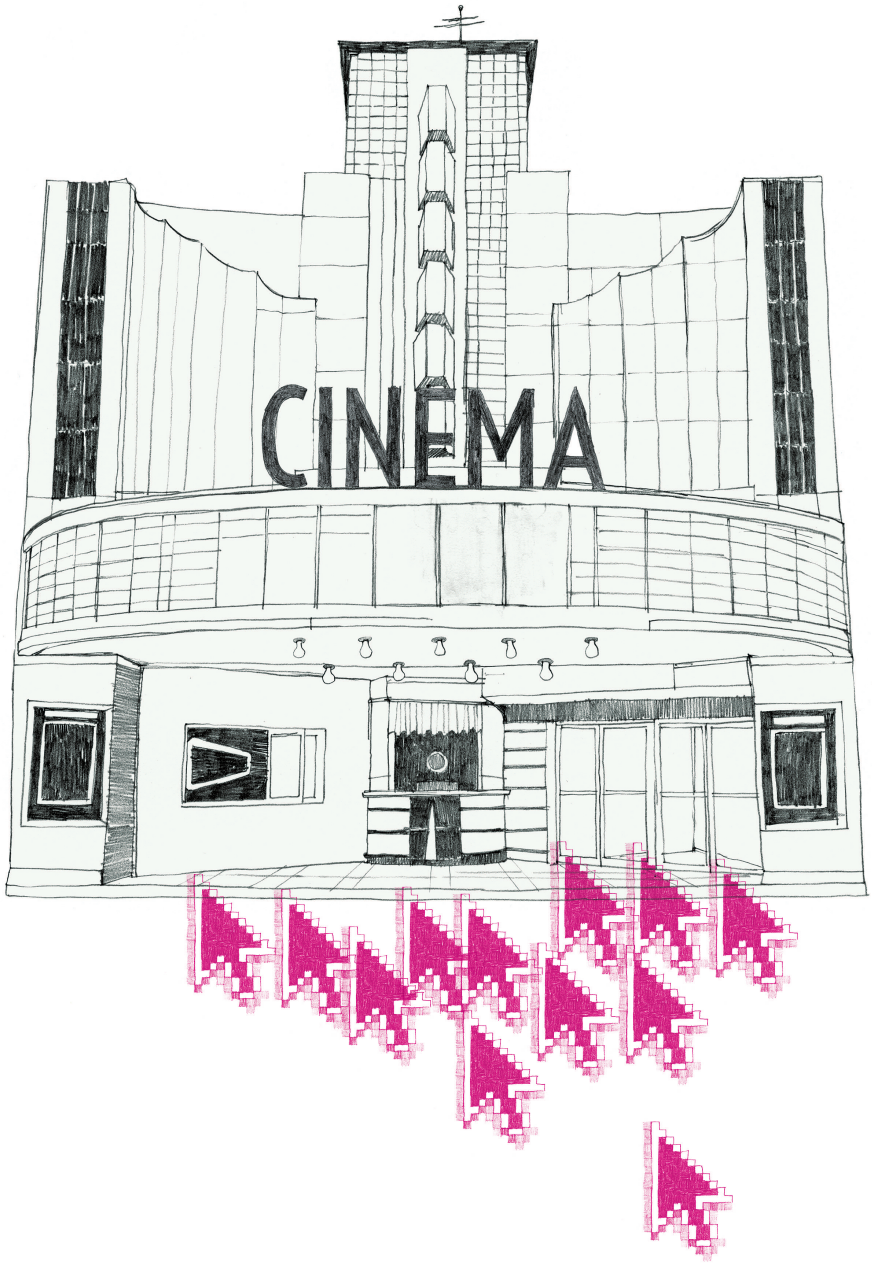
Tim Whalen, the director of the Getty Conservation Trust, has been impressed at the way ordinary neighborhoods in Los Angeles have mobilized to gain designation as historic overlay zones, a system the city has had in place since 1979. So far, 24 neighborhoods have become historic zones, and more than a dozen proposed zones are awaiting approval.

"Neighborhoods came together and said, 'We don't want greater density and the changes we see around us,'" Whalen observes. "These aren't wealthy neighborhoods. The demographic was diverse. These are people coming together to save places and community life."

All of these forces that are reshaping preservation play well into Richard Moe's strategy for decolonizing the movement away from the National Trust's ornate mansion on Massachusetts Avenue in Washington, D.C. His successor would be wise to keep advancing preservation's relevance in a similar fashion.

"It used to be that preservation appealed to a number of people who loved old buildings, and for the most part, they were individual buildings," Moe says. "But now it appeals to a much broader range of people, and not just for aesthetic reasons." He has seen the trust become a mainstay in areas he hadn't thought possible, playing decisive parts in social and economic issues, he says. "I hope my successor will continue to look for those possibilities." □

## ↓ PRESERVATION IS DIGITAL

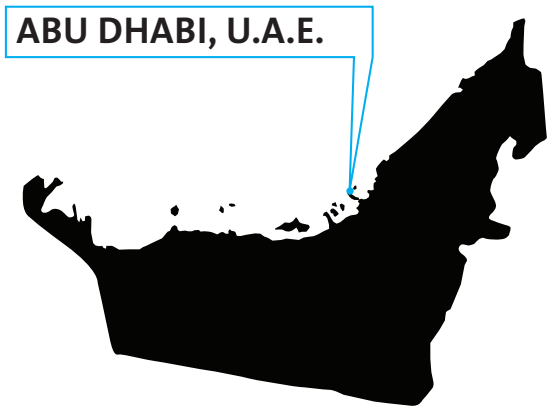


HOSP
Europe
Demand in the U.K. for new healthcare construction is winding down, but hospital refurbishments are on the rise. Eastern European countries need large (500- to 1,000-bed) new facilities.
Middle East
Blue-chip U.S. medicine (as delivered by Johns Hopkins, the Cleveland Clinic, the Mayo Clinic, and others) is offered in facilities that resemble five-star hotels more than hospitals, with expensive finishes, grand public spaces, and royal/VIP suites.

**China**
Feng shui may dictate some of an architect's design (so that patient rooms face south, for example). The sheer volume of patients, both in- and outpatient, and reliance on public funding mean that three-bed rooms are common.

# ITALS

**Australia**
Many hospitals were built after World War II and need to be replaced. Local firms may look to partner with U.S. firms that have specialized experience, while new trade agreements allow American designers to compete or collaborate with their Australian counterparts.




## Danat Al Emarat Women's and Children's Hospital

**Architect:** HKS • **Client:** United Eastern Medical Services • **Square feet:** 572,000 • **Cost:** $205 million • **Completion:** 2011 • This 150-bed hospital will have a special focus on maternity services, with a high-risk pregnancy unit and a 25-bassinet NICU nursery. The facility includes 22 royal and VIP suites.

TEXT BY ELIZABETH EVITTS DICKINSON

# WITH DOMESTIC PROJECTS—EVEN HOSPITALS—ON THE WANE, **INTERNATIONAL HEALTHCARE** REPRESENTS A RARE BRIGHT SPOT FOR U.S. ARCHITECTURE FIRMS.

**IN THE 1970S,** when the king of Saudi Arabia needed a heart operation, he did what Middle East royals had been doing for decades: He traveled to the United States. After his successful procedure at the Cleveland Clinic, more wealthy patients from the region followed, culminating in thousands receiving care at the hospital. But starting in 2012, these patients will no longer have to pull out a passport to get Western medical treatment. The Cleveland Clinic joins other major U.S. institutions, such as Johns Hopkins and the Mayo Clinic, in bringing its brand of medicine to the Middle East. When it opens in 2012, Cleveland Clinic Abu Dhabi will be a multi-specialty hospital on a par, its owners hope, with the world's top medical institutions.

"The government of Abu Dhabi is taking bold steps to improve access to world-class treatment and reduce the need for patients to travel abroad for care," says Mark Erhart, executive director of healthcare at Mubadala Development Co., which is the hospital owner (its sole shareholder is the government of the Emirate of Abu Dhabi).

It's not just medical know-how that's proving to be a valuable U.S. export. The U.A.E. is also importing architectural expertise. "In selecting an architect for this project, we looked for a firm that would be able to translate our vision to create an unparalleled extension of the Cleveland Clinic model of care here," Erhart says. They chose the Omaha, Neb.–based firm HDR.

### The globalization of American healthcare

Alan Dilani is founder and general director of the International Academy for Design & Health, based in Sweden, which tracks healthcare trends and research around the globe. He says the Middle East as a whole is witnessing a healthcare construction boom, and Abu Dhabi is not alone in its desire to build new hospitals and employ Western design services.

"Before, many wealthy people in the Middle East visited Europe or the U.S. for any kind of disease," Dilani says. But now there is a desire to have those medical services closer to home, especially as international travel becomes more difficult, he says.

Investment in healthcare is on the rise around the world. "The minister of health in Saudi Arabia is looking to build 52 hospitals," Dilani says. Turkey "is planning 24 new hospitals," while countries in Eastern Europe, like Russia and Yugoslavia, are in need of large, 500- to 1,000-bed hospitals, according to Dilani. Vietnam, Thailand, and Malaysia are spending more on healthcare construction, while China has undertaken a mammoth infrastructure overhaul, including new hospitals. India is also building hospitals at an impressive clip, sometimes offering firms the chance to create multiple facilities at once.

"It's the globalization of healthcare," says Jean Mah, national market sector leader for Perkins+Will's healthcare practice. "We're finding that there are interesting developments in these countries due to [overall] economic growth, but a lot is fueled by a growing middle class that is demanding access to more healthcare."

This rise in consumer demand is placing a higher premium on knowledgeable healthcare design, which translates into opportunities for U.S. firms with healthcare expertise. Some trends in Western design are being directly transplanted into foreign facilities: larger, single-bed rooms; advanced technology; softer interiors incorporating warm materials like wood; and evidence-based design techniques focused on patient outcome, such as daylighting.

But designing abroad is not as simple as grafting a Western approach onto foreign markets. "You cannot walk into a place like China and presume that your reputation precedes you, that your way is the only way, and that you are worth a lot of money," says Ray Pentecost, vice president and director of healthcare architecture at Norfolk, Va.–based Clark Nexsen and president of the AIA Academy of Architecture for Health. "So much of [healthcare design] is culture-driven."

As the market for healthcare design opens, new opportunities breed exposure to a whole new set of rules, from complex

design competitions and meticulous cultural considerations to thorny billing systems and challenging materials sourcing. It's a promising market abroad, but one that requires a special mix of business savvy and cultural sensitivity.

**Hospital meets hotel**

Looking at the interior renderings for the new Cleveland Clinic Abu Dhabi (CCAD), you could easily mistake the 2.7-million-square-foot project for an exclusive hotel. "One of the predominant goals is to create a five-star-hotel experience in a hospital, so much of the design is driven around creating that," says Harold Nesland, international managing principal for HDR.

Patients will enter a lobby outfitted in marble, stone, and wood. There will be expansive public spaces, including an upscale retail gallery overlooking the city. Private suites designed for royal families will appear to be carved out of marble.

The hotel-meets-hospital, a popular approach in the Middle East, extends to not only the aesthetics of the building but also the way guests are accommodated. "In the Middle East, you often have large families accompanying the patient," Nesland says. The 364-bed hospital (expandable to 490 beds) has single-patient rooms slightly larger than a typical U.S. room, but the royal suites command a staggering 7,000 square feet each. Waiting areas feel more like hotel lobbies, while circulation patterns keep back-of-house activities—patient transport, logistical support—hidden from the public. The architects took great care to develop an intuitive and sophisticated wayfinding system that also addresses cultural requirements, like keeping royal families isolated and men and women segregated, as needed.

In other respects, though, the CCAD will mirror its U.S. counterpart. It will be a physician-led medical facility—staffed only by North American board-certified (or equivalent) physicians—that employs the latest technologies in surgery, imaging, telemedicine, and electronic medical records. Exporting the Cleveland Clinic brand of healthcare to the Middle East required considerable planning in the design phase. "Our processes have been fully integrated into the design," explains William Peacock, director of operational support services at the Cleveland Clinic. "Over 300 physicians and clinical personnel [helped set up] each of the clinical and specialized care areas, and [went] through with the architects to assess how patients

## Cleveland Clinic Abu Dhabi

**Architect:** HDR • **Client:** Mubadala Development Co. • **Square feet:** 2.7 million • **Cost:** Confidential • **Completion:** 2012 • The Cleveland Clinic Abu Dhabi (CCAD) is an anchor project for Sowwah Island, the new central business district of Abu Dhabi; its stacked, rectilinear volumes (top) are rising adjacent to the site of a new stock exchange building. The hospital will include expansive public spaces including a long gallery (middle) that runs next to a waterway, offering city views and outfitted in marble, glass, and wood. VIP and royal suites (bottom) continue the high-end hospitality feel, with a blend of Western and Middle Eastern design elements and room to accommodate extended families.

## St. Bartholomew's & The Royal London Hospitals

**Architect:** HOK • **Client:** Barts and The London NHS Trust • **Square feet:** 1.2 million • **Cost:** $1.2 billion • **Completion:** 2012 • This project encompasses new construction at, and renovations to, both St. Bartholomew's Hospital (top left and right) and The Royal London Hospital (bottom left), which now operate jointly in central London as Barts and The London NHS Trust. HOK is providing full medical planning and design services for the scheme. The design will incorporate existing historic buildings. Barts will become a specialist cancer and cardiac center with 343 beds, and The London, with 905 beds, will serve as a district general hospital.

will move through the hospital."

The CCAD is strategically sited on Sowwah Island, the new central business district of Abu Dhabi. The hospital's exterior design of glass, steel, and stone is meant to be a powerful presence on the horizon, a building that speaks to its purpose of providing advanced medical care.

Also for Abu Dhabi, the Dallas-headquartered firm HKS designed the Danat Al Emarat Women's and Children's Hospital, due to open next year. This $205 million, 150-bed hospital is sited on the mainland. "There is sand everywhere; they have sandstorms. How do you bring a building into that site?" asks Enrique Greenwell, an HKS vice president. The solution is a strong podium clad in a perforated and corrugated metal skin that creates a highly textured surface, allowing views out while reflecting sunlight in different directions. This base, which houses the diagnostic treatment area, is capped by a flowing glass structure meant to resemble a *hijab*, the head covering worn by women in the Middle East. At night, LEDs allow the veil to glow and give the perforated metal base a moiré effect intended to evoke an Arab lamp.

The facility's interior circulation reflects that men and women frequently require separate transit paths, and its ventilation accommodates the tradition of burning an expensive wood called *oud* or a perfumed coal called *bukhoor* when a child is born. Some interior spaces face Mecca for daily prayers.

The project includes 22 royal and VIP suites, reached via their own entrance and elevators. "This is a completely different program from a U.S. suite," says Dan Noble, executive vice president at HKS. "Individual VIP suites are about one-quarter of the floor. It's like going to a fancy hotel in Vegas."

Greenwell says designing the royal suites required some translation. "We met another big challenge in just defining the term 'royal.' We began doing an approach that was very trendy, contemporary, and elegant, and [the client] really embraced it. As time went by, though, they got comments from locals who thought it wasn't 'royal' [or traditional] enough."

**Public vs. private**

U.S. architects working on healthcare projects in China have a very different role from the hands-on approach they take in the Middle East. In China, they are only allowed to produce the design, which they then

hand over to a local design institute. The designing firm can't be sure how the final structure will turn out. "It's very much a surprise. Everything from the detailing to the orientation of the building can change," says Ed Scharff, an associate principal at TRO Jung|Brannen. His firm has designed several projects in China, including the Shenzhen Third People's Hospital, which won a 2008 AIA National Healthcare Design Award and is currently under construction.

TRO Jung|Brannen's competition-winning proposal for the Shenzhen hospital illustrates two key differences when working in the Chinese market. Conceived in the wake of the SARS epidemic, the 500-bed specialty hospital and outpatient clinic includes something a U.S. facility for infectious disease never would: windows that open. "When you get into the healthcare practice in China, it's inevitable that you're going to have to deal with feng shui," says Chan Byun, a TRO principal. In China, it is believed that a hospital should take advantage of prevailing winds by placing ill patients downwind, he explains. It is also believed that patient rooms should face south.

Another programmatic difference is something known as the "dirty core." In China, Scharff explains, contaminated waste goes to a special core in the building and never crosses into the "clean" sections of the facility. In a patient tower, there will be "clean" public elevators and separate soil elevators, adding a layer of complexity to circulation plans.

China has plans to upgrade its national health system, including its healthcare facilities. The government issued a policy report last April calling for the construction or renovation of 2,000 county-level hospitals and tens of thousands of local health centers.

You can be sure there will be no 7,000-square-foot suites in these projects. "One of the things to consider with hospitals in China is the huge daily flow of people. You are in the thousands of people a day just for outpatient," Scharff says. "Single patient rooms are pretty rare in a public hospital, and three to a room is not uncommon. We've designed hospitals with six-bed wards."

While Shenzhen is a project of the Chinese government, private owners also are undertaking a large number of projects in Asia. Singapore, which is located within a six-hour flight path of many major cities, has seen private owners jumping into the healthcare sector to serve wealthy local populations and the possibility of medical tourism. "There is a market for a center of excellence that is based on American ... standards of care and operational models, and that is a bit of a departure from the national standard offered through their healthcare system," says Ron Smith, senior associate in healthcare at HOK.

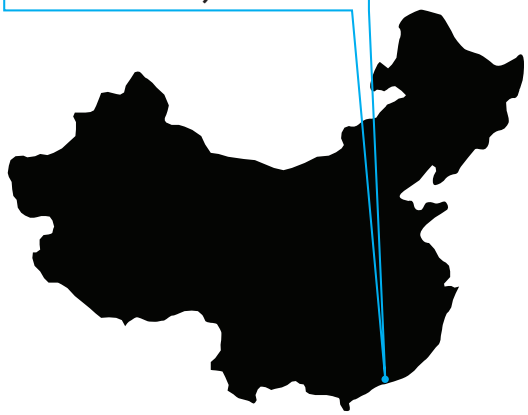
For Singapore's ParkwayHealth Novena Hospital, HOK designed a 780,000-square-foot facility that will focus on cardiology, orthopedics, and neurology. All rooms will be private, and the facility will offer patient-floor balconies, gardens, and rooftop landscaping. As in the Middle East, there is a premium on user experience. In the lobby, patients check in at a concierge desk. The facility, which is currently under construction, has an exterior clad in double-pane thermal glass with special tinting and shade features to mitigate the strong sun (Singapore is nearly on the equator). One section of the façade uses photovoltaics in the glass to generate energy. The building is expected to achieve Greenmark Platinum certification in Singapore, similar to LEED Platinum.

**Refurbish, replace**

A hybrid of private and public funding, private finance initiatives—or PFIs—are increasingly supporting the construction of healthcare projects around the globe. The world's largest healthcare PFI project to date is now under construction in London. Designed by HOK, the $1.2 billion expansion of St. Bartholomew's and The Royal London Hospitals will integrate new structures into existing historic fabric. In the U.K. market, "New construction is down, but a large number of hospitals need to be restructured, so they have a lot of refurbishment work," Dilani says.

And what will be the next big market in the coming decade? "Australia," Dilani says. "Australia is the place to go right now," because of its plethora of aging hospitals in need of replacement. Warren Kerr, national director for Perth, Australia–based Hames Sharley Health Group, says that while there is a thriving local base of healthcare designers, there is a need for outside expertise, especially on big-ticket specialty projects. "It is unlikely that individual firms have specific experience in these specialized fields. It would make sense to joint venture with an overseas firm who has recently completed a project of [a similar] nature." □

## SHENZHEN, CHINA



### Shenzhen Third People's Hospital

**Architect:** TRO Jung|Brannen • **Client:** Shenzhen Third People's Hospital • **Square feet:** 893,400 • **Cost:** Confidential • **Completion:** 2010 • At the Shenzhen Third People's Hospital, most patient rooms face south, in accordance with a principle of feng shui.

## NOVENA, SINGAPORE

### ParkwayHealth Novena Hospital

**Architect:** HOK • **Client:** ParkwayHealth • **Square feet:** nearly 780,000 • **Cost:** Not available • **Completion:** 2011 • ParkwayHealth Novena Hospital will focus on cardiology, orthopedics, and neurology, and have hotel-like amenities including a concierge desk to check in and patient-floor balconies.

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TEXT BY KATIE GERFEN
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EXCEPT WHERE NOTED

# CHARLES H. SHAW TECHNOLOGY AND LEARNING CENTER

CHICAGO
FARR ASSOCIATES

**WHEN THE TEAM** from Chicago-based Farr Associates interviewed in 2005 for the commission for the Charles H. Shaw Technology and Learning Center, they were given a tour of the site: a red-brick powerhouse filled to the brim with boilers, coal chutes, and the flotsam and jetsam of Chicago's industrial past. The building originally supplied heat and electricity to the vast Sears, Roebuck and Co. campus on the city's West Side; Sears vacated the property in the early 1990s.

The current owner, the Homan Arthington Foundation, was determined to include the powerhouse in its ambitious revitalization of the adjacent historic neighborhood of North Lawndale. A partnership with Chicago Public Schools' Renaissance 2010 project—charged with creating 100 new charter schools—and the Henry Ford Learning Institute clarified the program for the renovation: The powerhouse would be a green charter high school.

Completed in 1905, the Nimmons & Fellows–designed powerhouse incorporated neoclassical

→

cornices and decorative medallions in its facade. The great hall, which occupies the entire northern half of the 90,000-square-foot building, was filled with generators until the 1950s, when Sears moved to the power grid and the space was turned over to air conditioning equipment. Nimmons & Fellows finished the hall's interior in glazed Tiffany brick, with large windows and a lengthy ribbon of skylight. The building's south side held the boilers.

For 50 years, daily freight trains pulled up along the south side of the building and dropped coal into a basement pit. From there, it was carried by a system of conveyors up three stories before being portioned into 100-ton capacity hoppers located over the boilers. The boilers generated superheated steam, which was used to produce electricity and to heat the other campus buildings, which housed Sears' corporate and mail-order operations.

In the 1970s, a shift was made to gas- and oil-fueled boilers. But the new equipment—when not a direct replacement—was placed in and around the old, creating a historic record of power generation in the 20th century. The Sears complex was added to the National Register of Historic Places in 1978. Nonetheless, many of the buildings on the campus were demolished.

The powerhouse was officially mothballed in 2002, though some equipment was still called upon to provide hot water until the renovation began in 2006.

In 2005, when Farr Associates took on the project, firm principal Jonathan Boyer says, "We had experience with schools, sustainability, and historic preservation, so the idea was to use this [expertise] to create an environment that could be used as a didactic teaching tool." The goal was to create a LEED Platinum high school replete with modern technologies, while restoring the original structure and some of the machinery to preserve a sense of the building's past. The budget was tight: $40 million in total, amassed by a unique mix of historic and new market tax credits and private fundraising.

But before the renovation could begin, an extensive interior demolition process was necessary. To see how much could be preserved, the architects climbed what Boyer describes as a series of "Piranesi-like catwalks," examining beams and bearing walls for structural stability. Despite their best efforts, surprises emerged throughout the construction process. Upon removing the coal bins, for instance, they discovered that beams deemed more than sufficient to support infill floors had in fact been eroded by sulfur. And toxic materials necessitated extensive remediation.

When the building opened three years later, in time for the 2009 school year, all signs of the epic design and demolition process had been erased. Today, students enter into the restored great hall, which still retains its glazed brick and much of the original floor tile. Anything too damaged to be retained was replaced with in-kind

NG CENTER

**1.** When the Sears powerhouse was mothballed in 2002, stationary engineer Tom Reidy, of Local 399, was the last to leave. "When I walked out," Reidy says, "it was the same as it was when I got there that morning." Now, the great hall that once housed chillers, hydraulic pumps, and turbine generators (above left) has been transformed into the center's entrance, assembly room, and cafeteria (above right). Windows were restored and outfitted with double glazing, the skylight was upgraded with Kalwall panels, and the existing mezzanine was extended to accommodate a teachers lounge.

**2.** On the south side of the building, a massive system of catwalks was put in place to allow for a code-required third point of access to the fire department. Doubling as a shading device, the structure hangs off the original building frame. Doors from each classroom open onto the walkways to provide egress.

→

materials. The space is now used for assemblies and as a cafeteria; a mezzanine houses a teachers lounge.

From the hall, doorways cut through the original thick brick dividing wall and into the classroom wing, once home to the plant's massive boilers. What was once a 75-foot-high space laced with catwalks and open metalwork stairs has been subdivided into three floors to accommodate lab spaces and classrooms. These rooms still show signs of the building's original purpose—one has a preserved section of conveyor, and others, the trapezoidal bases of the coal hoppers. "Every space has a different morphology and different historic elements," Boyer notes. "That uniqueness is what gets you interested in the space."

The biggest structural move in the project was one that no one foresaw. The fire department decided mid-build that the slope of the access road was too steep for fire engines to navigate (cutting off code-required access), so the architects devised a massive system of steel catwalks and stairs on the building's south side, hung off of the original structural frame and accessible from every classroom. The system doubles as a shading device.

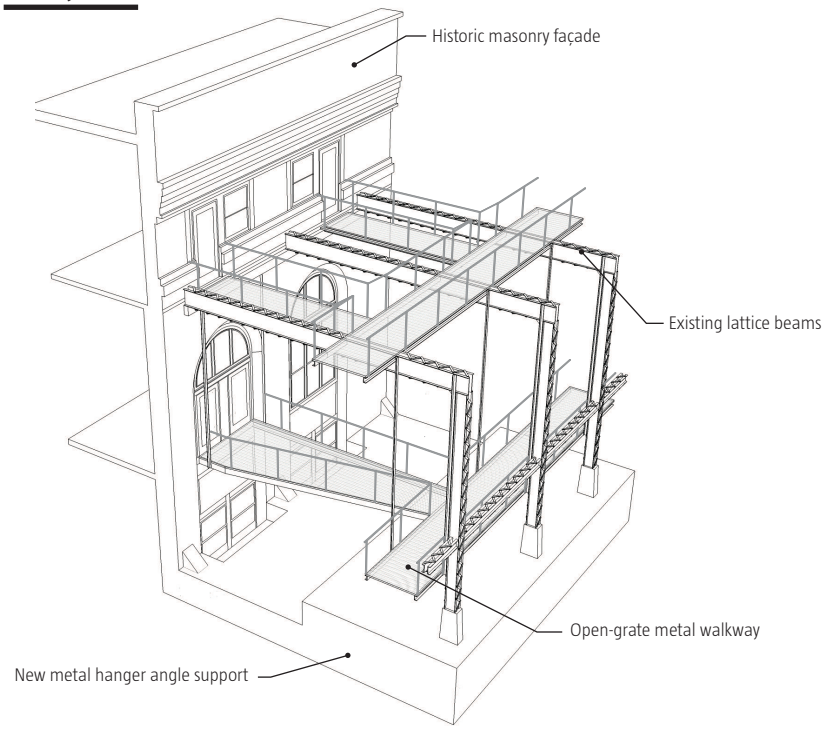
Other green measures include a field of 84 350-foot-deep geothermal wells, a rainwater retention garden, and a green roof. The architects submitted enough credits to achieve LEED Platinum, and the final rating will be handed down in the coming months.

To some locals, "the reason the school is exciting is because of everything else that's already here," says Kristin Dean, president of the Homan Square Community Center Foundation. She refers to the adjacent Homan Square development, begun by developer Charles Shaw in 1988 as part of a three-pronged approach to the revitalization North Lawndale—provide safe, affordable housing; provide jobs; and provide community services. Homan Square offers 300-plus housing units and a community center that opened in 2001. "It's truly mixed income housing," says Dean. "People who have Section 8 vouchers and a partner in a law firm live in the same block."

The Shaw Technology and Learning Center project rallied more than just the neighbors: There were more than 600 applicants for the school's 120 9th-grade slots; eventually there will be 460 students in grades 9–12. Substitute teacher Charlotte Fletcher, who is also a 12-year resident of Homan Square, has nothing but praise. "It's just absolutely beautiful," says Fletcher of the school. "It's almost like the students' minds are free when you walk in there. They've got everything they need to work with to be creative and successful in their lives."

RUSSELL B. PHILLIPS

**Balcony Detail**



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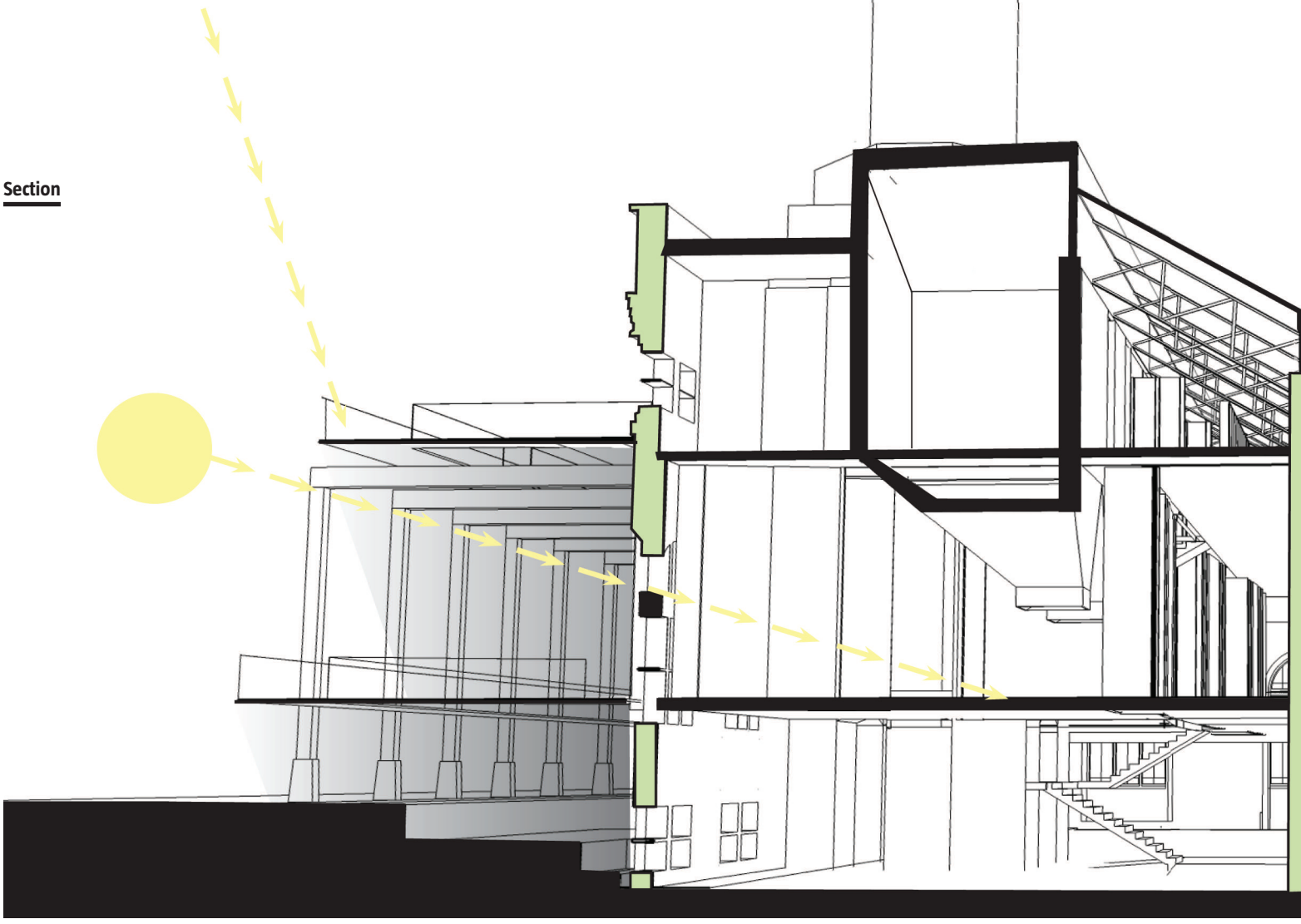
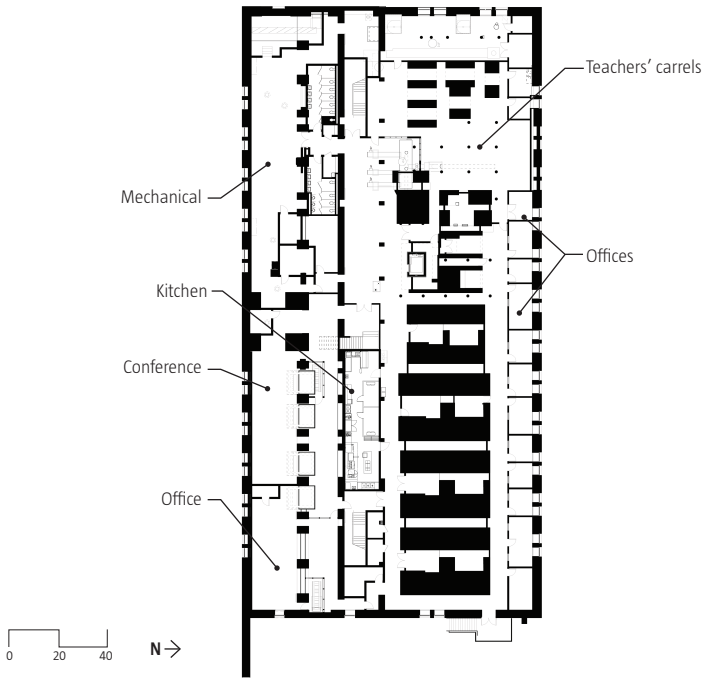
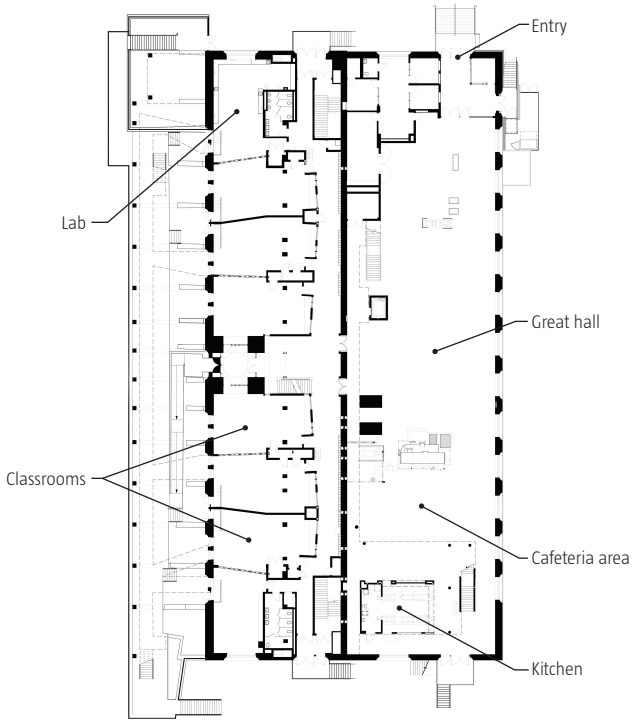
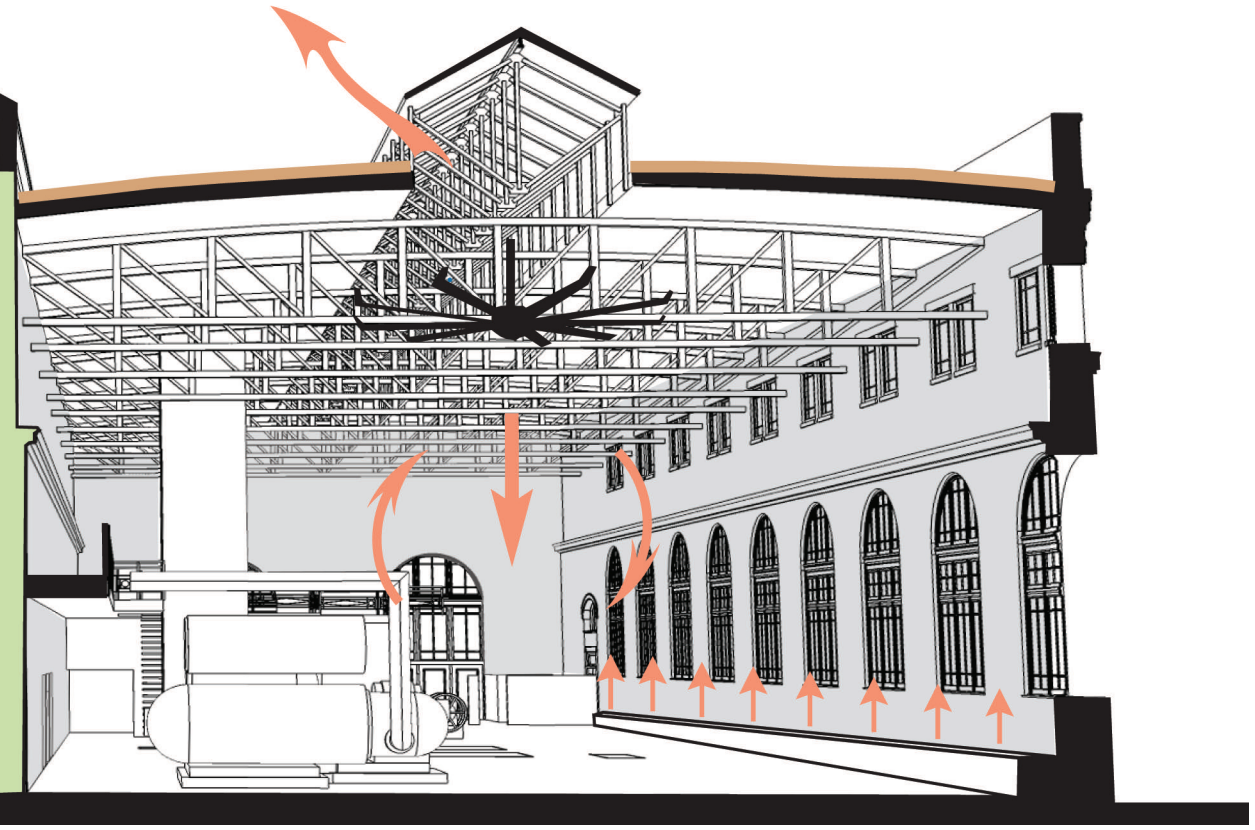


## Basement

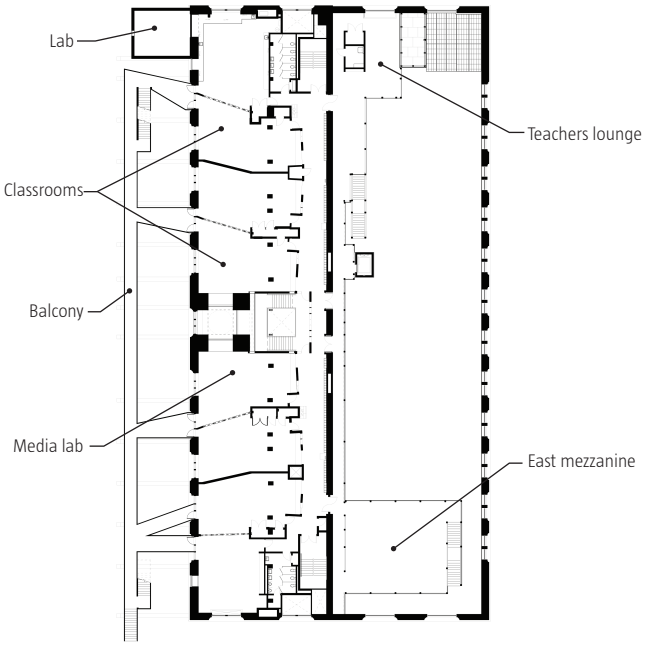



## First Floor

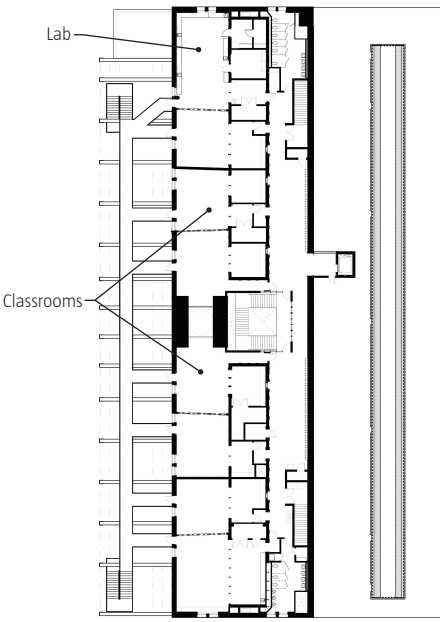




**Second Floor**




**Third Floor**

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Big Ass Fans
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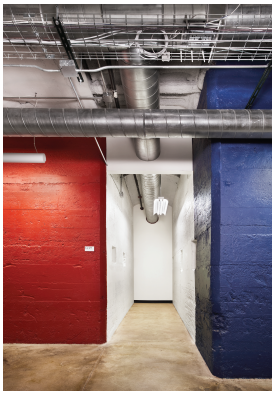
Because it can be hard to properly distribute and cycle air through a space as large as the great hall, Farr Associates specified four 12-foot-diameter PowerFoil fans from Big Ass Fans. With 10 63-inch foils collectively moving at 82 revolutions per minute, each unit displaces air at a rate of 101,579 cubic feet per minute. Installed among the original trusses that remain at the top of the great hall, the fans distribute air from the geothermal heating system, which is brought in through a plenum under the low bench along the north wall, making heating and cooling more efficient.

**¾" Argon-Filled Insulated Glass Unit**
Oldcastle Glass
*oldcastleglass.com*
In order to make the single-paned windows more energy efficient, the U-value needed to be increased. Boyer's team worked with Restoration and Preservation Enterprises on a solution that would allow them to install double-glazing while retaining the original window framing—and still meet both National Park Service and Illinois Historic Preservation standards, as well as the Secretary of the Interior's Standards for Rehabilitation. The solution, Boyer says, "had to be historic, cost effective, functional, and sustainable." The original wood frames were routed out to make room for the new glazing unit. The original color of the window sash and frame were restored and steel bands added under the wood allow the windows to resist wind loads of 90 mph.

**70-mm Fiberglass-Reinforced Sandwich Skylight Panel**
Kalwall
*kalwall.com*
The architects chose to replace the aging glass panels in the ribbon of skylight over the great hall with translucent panels from Kalwall. These panels have a 50% light transmission, which reduces glare and heat gain into the space while also refracting the light to better diffuse through the entire double-height room. The panels also improve the U-value and efficiency of the skylight significantly over the original single-pane glass.

1



**1.** The basement level is used largely for faculty office space and special-education classes. Instead of erecting walls to create individual offices, the architects located faculty carrels around the massive poured-concrete arches that once served as a counterbalance to the generators and now bring a cloisterlike quality to the below-grade space.

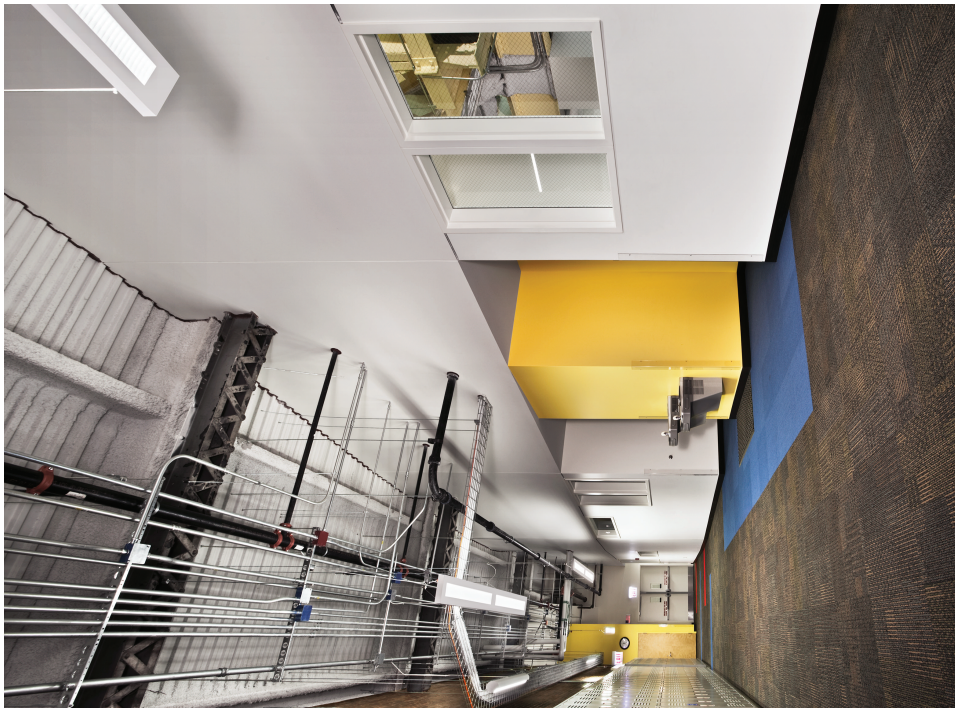
**2.** The once-daunting maze of narrow hallways and conduits in the basement (left) has been transformed into a brightly painted and welcoming space (above). Working with the vocabulary of piping already in place, the architects chose to run wiring to teachers' carrels and tutoring rooms through a series of cable trays that are suspended from the ceiling.

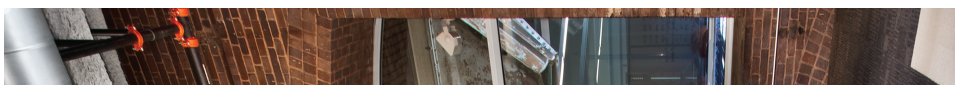
## SHAW CENTER

**1.** The industrial remains of coal hoppers and chutes (top) were transformed into classroom spaces (bottom). To preserve the building's history, some of the historic elements were left in place (like the now-painted coal hopper). "We wanted the building to be an educational tool," Homan Square Community Center Foundation president Kristin Dean says, "and to tell a story about energy production; how we used to produce energy 100 years ago, and how we produce it now." The brick-clad coal chute was restored, and windows were installed so that students can look into the space from their new learning environment.

**2.** Massive ductwork (top) that used to contain and direct the flows of super-heated steam was removed to make way for two new floor slabs, dividing the once 75-foot-high space into three classroom levels. In the newly finished hallway (below) a lattice beam was left exposed amid the new drywall and metal decking. Dusty and rusting spaces have been transformed by brightly painted walls and high-traffic carpet tile.

**3.** A central stair (bottom) was added to provide circulation for students moving between floors. It is located in front of the restored coal chute and hung off original lattice beams (top). Where possible, the original structural elements were maintained, both to reinforce the building's history and also to reduce new construction and renovation costs.





## SHAW CENTER

The top of the vast triple-height boiler room was originally capped with a glass skylight to allow daylight for the engineers working on the conglomeration of equipment below (right). Now, the glass has been replaced with translucent panels, and an inserted slab creates a third floor of classrooms with a wide enough hallway to serve as an informal student gathering space (opposite).

## Project Credits

**Project** Charles H. Shaw Technology and Learning Center
**Client** Homan Arthington Foundation
**Architect** Farr Associates, Chicago—Jonathan Boyer (design principal); Rose Grayson (project manager); Amy Calvanese (interior design)
**Contractor** Pepper Construction Co.
**M/E/P Engineer** IBC Engineering
**Structural Engineer** CE Anderson and Associates
**Landscape Architect** Conservation Design Forum
**Historic Preservation** MacRostie Historic Advisors; Kellermeyer, Godfryt, Hart
**Commercial Kitchen Consultant** Edge Associates
**Commissioning Agent** dbHMS
**Size** 90,000 square feet
**Cost** $40 million

## Materials and Sources

**Acoustics** Pyrok Acoustement pyrokinc.com
**Ceilings** Certainteed certainteed.com
**Carpet** InterfaceFlor interfaceflor.com
**Flooring** Dal-Tile (ceramic tile, quarry tile) daltile.com; Stonepeak Ceramics (porcelain tile) stonepeakceramics.com; Armstrong (linoleum flooring) armstrong.com; Johnsonite (rubber baseboard) johnsonite.com
**Furniture** Haworth haworth.com
**Glass** PPG (Solarban) ppg.com; Oldcastle Glass oldcastleglass.com
**Gypsum** USG usg.com
**Insulation** Johns Manville (blown-in and batt insulation) johnsmanville.com
**Lighting** Finelite finelite.com
**Masonry** Boston Valley Terra Cotta terraclad.com
**Metal** David Architectural Metals davidarchitecturalmetals.com
**Millwork** Custom millwork with Forbo Marmoleum forbo.com
**Paints and finishes** PPG Pittsburgh Paints pittsburghpaints.com
**Pavers** Egra Stone
**Plumbing and water systems** Sloan Valve sloanvalve.com
**Roofing** Firestone Building Products (Ultraply TPO) firestonebpco.com; Pac-Clad Petersen Aluminum (flashing) pac-cladmetalroofing.com
**Signage** ASI Signage Innovations asisignage.com
**Site and Landscape Products** Provided by Christy Webber Landscapes christywebber.com
**Wallcoverings** Forbo (pinup surfaces) forbo.com
**Walls** Hufcor (moveable walls) hufcor.com
**Windows** Traco (aluminum windows) traco.com; Hunter Douglas Contract (window coverings) hunterdouglascontract.com

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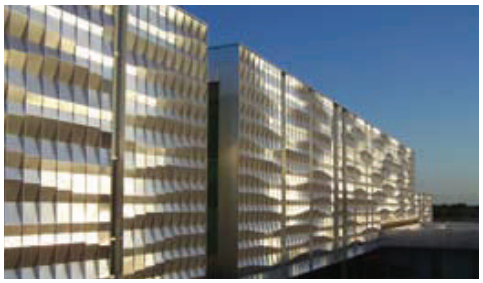

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**Register after March 26, 2010**
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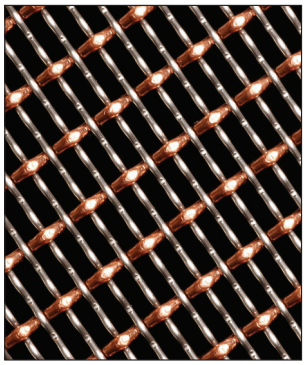

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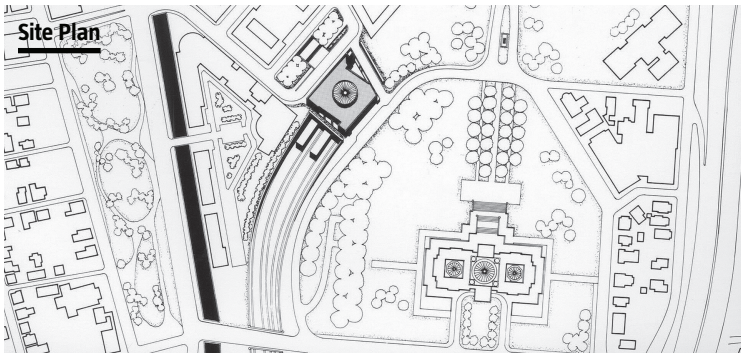


THE PROVIDENCE TRAIN STATION SHOWS THE **CHALLENGE OF BUILDING INFRASTRUCTURE** BEFORE THERE ARE ANY STRUCTURES TO CONNECT TO.

TEXT BY THOMAS FISHER

**1983 P/A Awards Jury**
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**THE "PROVIDENT" MAKE PROVISIONS** for the future, and so it seems fitting that the city named for that virtue, Providence, R.I., would use its train station to prepare for what must have seemed, 27 years ago, far off in the future. Designed by Skidmore, Owings & Merrill (SOM), the 1983 P/A citation–winning Providence train station shows how infrastructure can anticipate development long before it occurs. SOM, under the direction of then-associate partner Marilyn Taylor, located the station over rerouted train tracks, between the grounds of the Rhode Island State House and a yet-to-be-built Capital Center office, housing, and retail development.

Built largely as designed, the one-story station has a dome and central rotunda, echoing that of the nearby McKim, Mead & White–designed Capitol. A corner clock tower gives the low building its presence on the skyline, and the complex alignments of its plan recall the shifted axes of the 16th and 17th century French "hotels" that Michael Dennis analyzed in his 1986 book, *Court and Garden*. Unlike those aristocratic houses, though, wedged into the dense urban fabric of cities like Paris, this train station had to anticipate development that has only recently arrived to connect it to the downtown. In that sense, the station proved to be very provident. Its design accommodated the complex geometries of a circulation pattern oriented toward the Capitol and a structure aligned with the tracks, while its splayed plan opened out to what was then an imagined city, one that Providence eventually made happen. □

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